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Dissertations

Dissertations

read by the

Candidates for the Degree

of

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1852

Idiopathic and Traumatic Tetanus.

Though tetanus is a disease about which there has been a variety of theories advanced, & in which every method of treatment has been adopted, I have, nevertheless, chosen this disease — so full of interest to the practitioner of medicine — as a subject for a few thoughts; not venturing, however, what many others have attempted, as yet unsatisfactorily to do — explain the cause of the singular train of phenomena present in the disease.

Tetanus is a disease of the nervous system, and characterized by permanent contraction of the muscles of a portion or nearly the whole of the frame.

Different names have been given by nosologists for the same disease; accordingly as different classes of muscles are affected, as for instance, when the muscles of the lower jaw & throat were the seat of the spasm, trismus is the term used to denote the affection; & when there is rigidity & immobility

of the extensor muscles of the trunk & extremities causing a recurvation of the body backwards, it is denominated opisthotonos. So also, when the body is curved forward by the contraction of the anterior muscles of the trunk, emprosthotonos has defined it, & in lateral curvature pleurosthotonos.

That variety which affects infants is called trismus nascentium, & is not a disease of this latitude.

There are distinctions of less practical importance, for the disease as it appears in these different forms may be the result of the same morbid causes and requiring no essential difference in regard to the plan of treatment which should be adopted.

There is another division, however, which in a therapeutical point of view, is of more consequence, to keep in mind, i.e. the division of the disease into idiopathic, & symptomatic or traumatic tetanus; the former arising from general causes acting directly on the nervous system, such as the narcotic poisons; & the latter, or traumatic tetanus the consequence of mechanical injuries, of which punctured wounds & those of the extremities more particularly, may, by

sympathy transmitted to the nervous centres, give rise to this variety of the malady.

It does not always hold good that the implication of a nerve in the wound can only give rise to the disease; neither does the extent of the injury have any influence over the accession of this affection, for the most extensive wound may heal without the appearance of tetanic symptoms, & again, the slightest injury by any instrument may be followed by this peculiar train of spasmodic symptoms; requiring no particular state of the wound for the production of the disease.

The approach of this affection is usually quite gradual, though instances have occurred in which it came on suddenly, & the patient dying in a short time. This happens when it is the result of narcotic poisons of which perhaps Strychnine & Brucine are the only articles that will give rise to it.

The Symptoms of tetanus vary according to the severity of the disease and the muscles affected.

Among the premonitory symptoms which may sometimes be observed, are languor, a disposition to melancholy, watchfulness, anxiety, headache, restlessness, pain

tongue, unpleasant sensation about the precordia, constipation of the bowels &c. These symptoms, however, are often the precursors of other affections & of themselves would be somewhat equivocal.

The peculiar symptoms of tetanus may be said to commence about some of the muscles of the throat.

In traumatic tetanus the symptoms rarely make their appearance earlier than the seventh day after the wound, & quite as rare later than the fourteenth. Usually from the eighth to the tenth there will be peculiar sensation of stiffness of the muscles about the throat, & a feeling of soreness of the fauces resembling that arising from what is termed "taking cold". Often, this is the only symptom present for a period of twenty four hours, but it is, nearly without exception the first indication of the approach of the disease. Following this, there will soon be felt an inclination to rigidity of the muscles concerned in mastication & deglutition, which the patient discovers on attempting to swallow or open the jaws.

These symptoms gradually advancing, the muscles of the back of the neck become affected with the

same morbid condition. At first this is not so great as to prevent the patient from swallowing, or bending the head forward & in its various directions; but becoming more & more severe the function of deglutition is very nearly or quite interrupted, the head firmly fixed & the jaws immovably retained in one position, though not entirely closed.

The voice sometimes undergoes a slight change, for want of free motion of the muscles of the larynx, & throat generally.

From the muscles of the throat & neck, extending to other parts, this rigid state of some portion of the muscular system develops itself & the body becomes drawn into an unnatural position.

Pain, often very acute & violent, & sometimes of a darting character is felt about the precordial region, extending from the lower part of the sternum, backward to the spine, supposed to be caused by spasm of the diaphragm- this extending to the extremities, a perfect paroxysm is manifested. During the spasm, the muscles concerned in respiration & deglutition are seized, and their functions are imperfectly performed.

The breathing becomes quick & irregular, the countenance haggard, the features assume a kind of contracted appearance, the veins of the neck & face becoming full & prominent, the eyebrows & skin covering the forehead corrugated, together with the fixed & contracted eyes, the face presents a strange & frightful appearance.

The pulse is variable according to the severity and continuance of the attack. At first it is sometimes hard & full, but becoming soft & irregular as the disease advances. In very many cases the circulating system is very little, if any affected.

The skin from the beginning is covered with moisture, till later in the disease when the perspiration becomes profuse.

The stomach & digestive function are not particularly impaired & there is generally no disrelish for food.

The bowels, however, remain obstinately constipated. requiring powerful cathartics to move them.

Often there is excessive thirst, but in attempting to swallow there will be difficulty & symptoms similar to those in hydrophobia will be produced.

Common & special sensation remain unimpaired till the last. The mind too, rarely loses its vigor

through the whole period of agony.

Thus are the general symptoms, & in every case some particular class of muscles are more spasmodically affected than others. Sometimes those of the throat alone, & at others those of the back when the head is forcibly drawn backward & the patient resting on the occiput & sacrum, or on the occiput & heels if the lower extremities are implicated in the spasm. The muscles on the anterior part of the body may be the seat of the strong rigidity, & the inferior extremities become drawn forcibly against the abdomen. So also, those of the side, though this is very seldom met with, & by some pathologists doubted.

At a later period of the disease, the spasms remit but slightly & transiently, the muscular contraction becoming more & more violent, free perspiration breaks out, gradually increasing to a profuse sweat, the pulse becomes accelerated & irregular, the muscles of respiration are seized by the spasmodic contraction, & the tonic spasm continuing, this function is suspended too long for recovery, & during the terrible convulsion — unfortunately for the credit of the science — though perhaps fortunate for the patient — death closes the sad scene.

Causes. Tetanus often occurs in males than in fe-
males, a fact which has been accounted for, by the circum-
stance of man being more exposed to the exciting causes.

It rarely appears in young persons, or in those who are far ad-
vanced in life, but is most apt to make its appearance
at from thirty to fifty years of age. In some climates
however, infants are liable to attacks.

Notwithstanding that the disease may occur in all
latitudes, high atmospheric temperature possesses a
powerful influence in predisposing to tetanus.
Some localities are peculiarly prone to the development
of tetanus, & it has been observed that generally there has
been quite a variation of temperature in the course of
the twenty four hours, as in some mountainous dis-
tricts where the nights are somewhat cool & the days
excessively warm, so also, on the sea-coast where the
sea-breeze during the night is of a much lower temper-
ature than during the day.

Neglect of personal cleanliness, close & poorly ven-
tilated apartments, want of proper nourishment all
predispose to tetanus.

It has been observed also that the robust, athletic

& irritable habits of body are more liable to this affection, than those of an opposite temperament.

The exciting causes, are of two kinds, those which produce local or structural lesion, & those which affect the system generally.

Of the first are wounds; & from the most simple abrasion of the skin, to the most extensive & serious injury, alike may produce the disease, though punctured wounds & particularly those of the extremities are more liable to be followed by tetanus than any other. Simple incised wounds perhaps may be an exception; for it is very rare that the disease follows this class of injuries.

No particular state of the wound is necessary to produce tetanic symptoms; other & additional circumstances subsequent to the wound may be, & are usually the exciting cause. Thus are more frequently exposure to cold & moisture, together with fatigue between the reception of the wound & the appearance of the symptoms, or of cold suddenly following heat. more especially if applied when the system is in a state of free perspiration.

There will be no particular change in, or of the muscles near the wound previous to tetanus making its appearance.

The partial division of a nerve is more likely to be followed by tetanic symptoms. So it may follow the extraction of a tooth, fracture, tying of arteries, contusion, amputation, gun shot, punctured or lacerated wounds, & in fact almost any lesion of any tissue may give rise to the malady.

The presence of worms in the alimentary canal has been known to be the cause of it, or it may even follow the application of a caustic.

Besides these, there may be general causes which will produce the affection without a wound of any part. & among them the same as help to produce it with lesion, such as cold following high temperature, exposure to cool night air in warm climates. It has been known to follow great fatigue of body, terror, mental depression, suppressed perspiration, or the cessation of any habitual discharge, sudden disappearance of any cutaneous disease, & sometimes tetanic symptoms may occur after some forms of fever.

In many cases, however it is exceedingly difficult to trace its rise to any individual cause, or any combination of causes.

Morbid Anatomy. In those who have died of tetanus, the morbid appearances which have been found are exceedingly various.

In some, no morbid lesion whatever could be discovered to which the symptoms could be referred.

But there are certain characteristics which have been observed though perhaps they do not fully elucidate the pathology of the disease, may assist the physician to adopt a consistent treatment.

Among the morbid appearances observed on dissection are;

Ist those of the brain & its membranes. In some the vascularity of this organ & its membranes have been found increased, with more or less serous effusion in its ventricles, & arachnoid cavity. Generally the organ is in a healthy state.

II The spinal cord & its membranes. The appearance of the spinal cord & its membranes, have oftener been found to be morbid than that of any other part of

the body. In some instances it is softened, in others there are traces of inflammation in portions or the whole of its length, & sometimes an effusion of serum between its coats, & engorgement of its blood-vessels. The anterior portion or columns of the spinal cord have been noticed in some cases to have become softened. On the other hand, cases have occurred where no morbid state of the cord or its membranes could be discovered.

In traumatic tetanus the nerves in the vicinity of the wound have been found to have undergone some alteration, or more or less injured. sometimes contused, lacerated, or partaking of the irritative action of the surrounding parts.

The muscular system has been found altered, sometimes the muscles have been engorged with blood, & cases are reported where muscular fibre has been lacerated.

Tetanus however, may & does occur when the symptoms are violent, & the termination be fatal, yet none of these characteristics be developed on examination, evincing, plainly that these are not the primary

cause, nor a necessary consequence of the disease.

In a majority of cases no morbid lesion has been discovered, & the alterations when they have been found to exist are very slight & irregular, so that it is not unreasonable to suppose that structural lesion has very little to do with the development of tetanus. Indeed, "what we find," says one author, "is just enough to convince us that it is not necessary to find anything."

Whatever may be the true nature of the disease, no series of observation has led to the explanation, why, that in some cases trismus is developed & in others opisthotonos or emprosthotonos. In some no doubt it may be true that traces of morbid action may have been discovered in that part of the spinal cord which gives origin to those nerves distributed to that particular set of muscles acted upon, other cases where the same apparent effects has been produced, no such alteration has been found, & we are therefore left to suppose that such abnormal states are not essential to the development of tetanus. That there is some peculiar state of the system hitherto unexplained we cannot doubt, when we recollect that in many cases of well developed tetanus, there

cannot be discovered a lesion of any tissue, nor does the situation or any state of the wound. (in traumatic tetanus) seem to be necessary to the production of the disease.

* By some it has been supposed, that in traumatic tetanus, emprosthotonos & opisthotonos were occasioned "as the nerves of the anterior parts of the body were involved in the wound, & that if the nerves in both situations were wounded, complete tetanus was established," but many facts go to prove that there is no relation between the place & extent of the wound, & the form which the disease may assume. ‡ By others, "that the cerebrum presides over one kind of motion & the cerebellum over another — one over flexion & adduction, the other over extension & abduction, & that opisthotonos depends on irritation of the cerebellum & posterior columns of the spinal cord, & emprosthotonos the hemispheres & anterior spinal columns were more particularly affected."

○ "These views," remarks another, "though they have been maintained with great ingenuity, are not only opposed to the physiology of the nervous system established by

* Larrey ‡ Bellingheri. ○ Bennett.

Sir C. Bell but to the majority of pathological facts with which we are acquainted."

These theories have not stood the test of physiological research — reason & facts have contradicted them all & there is still wanting evidence to account for the singular train of symptoms.

As it has been observed that a vascular state of the cord & its membranes has oftener been present than any other, it may not be unreasonable to suppose that the congestion of the blood vessels surrounding the cord, by occasioning partial pressure & irritation, though it may leave none of its traces after death — may during life be followed by tetanic symptoms, though alone it cannot be the cause, for irritation & partial pressure of a motor tract or nerve by mechanical means will not produce tonic spasm nor any symptoms analogous to those of tetanus.

After all the speculations about the pathology of the disease there yet remains some peculiar state of the system which is yet unexplained, nor do any morbid appearances which have been found on dissection present sufficient uniformity of character that we

can form any satisfactory conclusion what condition of the nervous system is necessary for the production of this disease.

Diagnosis. Tetanus may readily be distinguished from any other affection, though some of the symptoms of hysteria assume very nearly the same form, But in tetanus there is the continued rigidity of the muscles, & the peculiar pain about the scrobiculus cordis, which distinguishes it from any other.

"Hysteria usually makes its appearance in females, & generally shows itself on or before the fifth day, while tetanus is mostly confined to males.

In tetanus the first sympton is usually if not always about the throat, & those of hysteria are first seen & felt at, or near the part wounded, In hysteria there is more freedom of motion on the part of the patient, such as throwing themselves about the bed, while in tetanus the body is more quiet though the tonic spasm is equally severe.

In hysteria the mind is frequently disordered, the patient sometimes becoming bewildered, while in tetanus the mind remains undisturbed to the last

nor are the teeth so firmly closed, as in hysteria, but the jaws are firmly fixed in one position & a little separated from each other, & there is a strange hissing of the respiration through the teeth.

The Prognosis is always unfavorable & in the traumatic variety, the termination is particularly fatal.

Trismus nascentium, or that form which is confined to infants almost invariably terminates in death. Cases are recorded of cures, but they are of the idiopathic form & of rare occurrence if well defined symptoms of the disease have made their appearance.

When however, in traumatic tetanus, some time has elapsed between the infliction of the wound & the accession of the symptoms — when the pulse is not much above its natural motion, & when the bowels are not so obstinately constipated & the spasm neither so frequent or so severe, some hopes may be entertained of a recovery. But when the attack appears in a few days after the wound — when the spasms are violent, the pain from the sternum backward to the spine acute & darting, difficulty of deglutition, hurried pulse & respiration, a fatal

termination may be expected.

Treatment.

When we review the different and opposite theories which have been advanced and defended in regard to the pathology of tetanus we are left to regret that we know so little of its real nature. Nor has the treatment always been strictly scientific, for, while one mode of treatment has, in the hands of one physician been followed by favorable results & been argued with ingenuity, another has found those very remedies manifestly injurious, & contrary to his pathological views of the disease, & he adopts a directly opposite course and with about the same apparent success.

This perhaps, may in part be owing to the fact that many cases which were nothing more than hysteria, have been reported as tetanus.

No remedial measures which science & skill could devise have been left untried; nor any nostrum which ignorance & quackery claim as their legitimate offspring, but have been called into requisition for the amelioration of this formidable affection.

It can hardly be necessary to divide the treatment into that which is proper for the idiopathic & that for the traumatic form, but merely in addition to the same remedies which are appropriate for both forms as a general course of treatment, there may be local medication indicated in the traumatic variety, & which will be referred to, after speaking of the general course of curative means.

If the patient is robust & there are symptoms of extreme vascular excitement, full & hard pulse, tongue foul, skin dry, veins of the head & neck turgid with blood, full & free bleeding may be of service, & that it may be efficient the vein should be opened with freedom & the blood allowed to flow till an evident impression is made on the system, or even carried as far as is proper for the safety of the patient.

Beside this the local abstraction of blood by means of leeches applied over the region of the spinal cord may be of use, both by the depletion which it produces & the irritation it causes.

Active purgatives may be administered with benefit, not only to move the bowels which are so

obstinately constipated, but by the reduction of the powers of the system which follows their use.

Scammony, jalap, gamboge have all been used & under certain circumstances one or the other may be indicated. These all tend to deplete the system as well as to remove the contents of the alimentary canal, which may prove a source of irritation, & if there are febrile symptoms present, they will act as antiphlogistics, & also prepare the way for the more successful administration of other remedies.

If the powers of the system are depressed, those of a more stimulating character may be employed & for this purpose Croton oil in one, two or three drop doses will produce the desired effect.

After the operations of any of these articles as cathartics, the bowels should be made to move occasionally by the same class of medicines given in smaller quantities, but enough to operate.

The narcotics of all other remedies have been the most efficacious in relieving the symptoms of the disease, & for this purpose nearly all of this class of articles have been employed & may be given

on the first appearance of the system & continued throughout the disease.

Opium has proved the most successful & that it may produce the disired effect, requires to be administered in enormous doses & often repeated.

If it is employed in the solid form it may be given in gr ij, iij, or iv doses & repeated every hour, before its soporific effects will be produced. Sometimes it may be preferred in a liquid form & may be administered in quantities of ℥j, ij, & iij of the tincture & repeated often & in doses sufficiently large to keep the system continually under its influence.

The salts of Opium in gr 1/4 & j every two hours perhaps will be as efficient, without increasing the tendency to constipation. These preparations may be administered by enema if there is any obstacle in the way of their administration by the mouth, requiring correspondingly larger doses to produce the same effect. Or they may be employed by the endermic method & they will be equally if not more efficacious, besides being a very eligible method of medication.

The various other narcotics have all been employed

but are inferior to opium. & its preparations, yet they may be given & sometimes with relief to some of the symptoms.

Strychnine may be given in gr 1/4 doses repeated every hour, or it may be combined with Fowler's Solution & given in quantities to produce a strong impression on the nervous system.

Arsenious Acid may be administered. So of Hydrocyanic Acid & the effect produced should guide us in their employment.

Belladonna, Conium & Stramonium have all been employed, & are not only inferior to opium in overcoming the spasm, but exert a feeble if any control over the symptoms

Tobacco has been somewhat extensively used & with apparent success in mitigating the severe symptoms. From its sedative action it has been administered for the relief of the nervous irritation & for overcoming the tonic action of the muscles. It is most efficacious when employed in the form of an enema of the strength of ℥j to the pint of water.

Of late years the Cannabis Indica has received

some notice as a remedy for tetanus & cases are reported in which its effects were palliative, if not curative. In the "Lancet" of July, 1851, is a notice of three cases in which Prof. Miller of Edinburgh, after purgatives, cold to the skin, & the Hemp pushed to narcotism removed the symptoms."

It may be given in doses of 8 j-ij or iij of the extract or 30 drops of the tincture & a steady degree of narcosis continued.

Strong tincture of cantharides may be employed & many times with decided advantage.

Tonics & Stimulants have been extensively given & there are not wanting reports of cases in which the use of these remedies have proved beneficial in removing symptoms resembling those of tetanus. If there are present signs of debility these may be proper, & to be of any decided use require to be given in very large quantities & in connection with other & more prompt remedies. Brandy & Wine have been used without measure, & with many, wholly relied on for a cure. In hysteria perhaps they may claim a cure.

Spirits of turpentine in teaspoonful doses has been

given in the same variety of cases & with the same apparent success.

Warm bathing with other remedies may tend to relax the muscles which are spasmodically contracted, but of itself worthy of little confidence.

Counter irritation along the course of the spine should be early resorted to & continually kept up.

Blisters, leeching, cupping & even the heated iron applied over the whole length of the vertebral column may tend to allay some of the more violent symptoms.

Caustic Potash, no doubt might be employed with decided advantage for the same purpose, & should be freely used over the whole length of the spinal cord.

So also moxas along the same region.

The anesthetic agents have been extensively employed, & like all new remedies, the tendency of many physicians has been to employ them with too little discrimination. Hence they have been used, evidently when contra-indicated & thus have been productive of harm.

That they will not cure perhaps may be admitted. So of many other remedies in the same disease,

& so tr of Calomel in some forms of dysentery & yet its good effects in many cases of this complaint, admits of no doubt.

Much testimony may be adduced in favor of the inhalation of Chloroform or Ether for the relief of the spasm, though a cure may not follow their use.

Antimony from its powerful sedative effect, may, when given in free doses palliate some of the more aggravated symptoms.

In traumatic tetanus, local treatment in addition to the general remedies should be employed.

The wound will probably have healed before any tetanic symptoms make their appearance, & as it has been noticed that tetanus has oftener followed wounds where little or no inflammatory action had been present, it has led to the belief that the production of inflammation & suppuration at the part wounded would be of benefit,

The experience of many physicians go so far to substantiate this theory, that it may be regarded as a means not to be omitted.

For this purpose the part which has been the seat

of the primary injury, should be freely laid open with the knife & caustic applied. Nitrate Silver in considerable quantities should be introduced into the incision & allowed to remain, will be followed by favorable results.

For the same purpose the chloride of Zinc may be employed, or what is prepared by some, the actual cautery. Pain should occasionally renewed, that the inflammatory action of the part may be continued kept up.

In some cases an emollient cataplasm of which some of the narcotic plants form a part, may be advantageously applied especially if the wound has not healed, but generally the irritants will be more successful.

The wounded part should be suffered to remain in an equable temperature as possible & not too cool. So also the body in every variety of the disease should be kept in a temperature of a steady degree of uniformity.

Little can be said in favor of amputation in traumatic tetanus,

If by a careful examination of the patient before the peculiar diagnostic symptom appeared, we could satisfy ourselves that the disease would follow a wound, perhaps amputation might save the life of the patient, But we cannot, & after this has come on, it is an unnecessary & even course of treatment, for we have seen that after the disease is once established, it may continue entirely independent of any local lesion. & the removal of any portion, does not remove the peculiar characteristic of the system on which the symptoms depend.

The division of the nerve extending from the wound toward the brain, though it may not oftener cure, is a less formidable operation & one that will fulfill all the indications which can be attained by amputation.

During an attack of tetanus the diet should generally be light, though a moderate supply of food will be easily tolerated by the digestive organs.

If symptoms of febrile excitement are present the same rules should govern us, as are applicable for the same pathological condition in other diseases.

It is not always easy to give sufficient nourishment by the mouth on account of the fixed position of the jaw, & the morbid state of the muscles concerned in deglutition.

Under such circumstances, articles of food may be introduced into the system by enema.

Richard Miles Bull,

New Haven, Jan, 14th 1852. Clinton, Ct.

Typhus Fever

I shall offer no apology for making this the subject of my thesis, though I am well aware that I am treading over old ground, and discussing a matter that has engrossed not only the attention but the pens of many abler than myself - Still as so many of the diseases of this day are modified by it - as the Physician is so often called to prescribe for it - and as its nature and even its habits are still involved in uncertainty, it cannot be amiss to spend a short time in treating upon it

The name of this disease derived as it is from the Greek Τῦφος, indicates one of its Chief Characteristics. Still as Stupor is an attendant on so many diseases, I can see no peculiar applicability in making it a nosological term - but would prefer to call it simply Erythematic Fever as Erythema and this form of disease are inseparable, or rather Erythema is necessary to its development, giving to it its peculiar character the stupor being an effect of the morbid condition of the system, and certainly not the cause -. Some have advanced the

idea that its seat and origin exist in the nervous system. but this is not altogether true for the disease may have continued at least a few days before the nervous system begins to suffer. and the nervous irritation though a constant attendant on the disease when fully developed - and often the first symptom which attention of the patient or practitioner, I believe to be a result of the morbid condition of the system. And not the cause nor any part of it from the beginning =

The Cause of Typhus has caused much dispute in the medical world - whether the present generation is any wiser than former ones is another dispute. So much has been and is still said both pro and con by intelligent men. that the student is seriously at a loss what to deduce from their combined statements Good declares that any of the common causes of fever may produce it = while others maintain from apparently absolute facts that it is a specific disease communicating itself by contagion =

One class hold that it is rarely a primary disease but rather a sequel of other fevers & dependent on the prostration of the powers of life, which prostration is brought about not by the specific disease Typhus, but which is often induced and attended with a certain train of Symptoms by Typhus. Others and perhaps the majority maintain that it is the disease ab initio. Both parties are doubtless in a measure correct. None can doubt that Typhus is often the result of long continued fevers and that its approach is induced by certain predisposing circumstances which may surround the patient. whereas had those circumstances been changed Typhus would not have appeared On the other hand that it is often a primary disease beyond a cavil, as cases occur continually in which the first Symptoms to which the Physician is called are those of Typhus. where the whole disease from its beginning to its ending is such and only such.

Next comes the great Question of Evacuation on which the dogs of war have been so long

let loose— For fear of becoming wearisome I will not Enumerate the different Combatants nor their views, except to defend the position which I honestly believe is the correct one— namely: That Syphus is not Contagious— except under modifying circumstances— and that the term Specific contagion should never be applied to it—
I am aware that most of the old teachers have taught differently— and not only they but those of our own age— Among whom are Prof. Hooker of this Institution who thinks that 9/10 of the Physicians of this time agree with him— So that if the matter were to be settled by suffrage I should find myself with an unfortunate minority
One thing is certain Syphus does exist when Contagion cannot by any investigation be detected, and it is just as certain that it may and does frequently exist without Communicating itself— nor do the most even of the Contagionists deny that they have seen the disease, where it was beyond their power to prove that it was not

idiopathic - The fact that it often follows bronchal fevers declares that it is not always propagated by contagion - and if not always why ever? Again it is well known that emigrant ships have been the localities where typhus has been developed in its most terrible form - When did it come from? - If contagion was its source then the period of incubation must have been at least many months for as the time of starting from their eastern ports all were in health and remained so until near the end of the voyage - Would the disease have appeared if the ship had been well ventilated, if the passengers had been well fed - if all the laws of Hygeine had been observed? if not then it is assuming too much to say that Contagion is the cause - rather let us refer its beginning to those circumstances which are tangible and not only tangible but palpable and conclusive -

Eberle calls it contagious, but at the same time declares that filth favors its development

and that it is often generated by that species of miasmata which originates in crowded apartments - as on Shipboard or in the hovels of poverty = Here then are two causes acknowledged - Contagion and miasm - And this I doubt not is near the truth - but miasm should by all means take the precedent - as the Contagion is entirely subservient to it - what I mean is, that with out the modifying influences of the Typhus miasm first affect the individual the Contagion of Typhus will be powerless - To close then on this point this is the conclusion - 1 Typhus is not Contagious except as there may exist a predisposition to the disease. 2 The cause is not in the atmosphere - an unseen poison floating around its devoted victim - but it exists in the system and arises out of Constitutions depraved by the circumstances which surround them - It is an idiopathic disease but when developed, may in a limited degree be spread among those previously unaffected, who are greatly exposed to it -

There is another point concerning this disease which of late has been much mooted to wit: Whether there is a specific difference between Typhus and Typhoid Fever?

There have been many arguments both in favor and against the affirmation of this question. I was taught in the early part of my studies that they were unquestionably different but later was just as urgently urged to discard that opinion. Marshall Hall calls them one and the same but the Editors of his work Drs. Bigelow and Holmes have taken the liberty to leave entirely out his article on Typhus and inserted one of their own which not only pays Hall a poor compliment but does themselves in my opinion no credit, holding as they do the doctrine of distinction. Most standard writers acknowledge but one disease and I can see no kind of a long thread discussion as both diseases if indeed there be two, which has never yet been proved) present the same indications and yield to the same treatment

I grant that as a matter of science it is always desirable to know the truth - but I hold that it is better to adhere to an old theory whence no harm can arise than to found an opposite one on an uncertain hypothesis - The distinctive pathology of Typhoid is held to exist in the inflamation of the glands of the intestines known as Peyers glands. The truthfulness of this has been disproved frequently - but even if it were true there can be no use of harping upon it - as the name of a disease can be of no moment to the discriminating practitioner - This pathological state is simply a modification of Typhus, and we might as well call all the various modifications of Cholera as or Dysentery or of any other disease by so many different names, and thus swell our nosology ad infinitum without any result but confusion. I shall therefor assume the position that Typhus and Typhoid are synonymous, differing only in degree. This is the doctrine taught in this institution

I did not design to enter into any discussion in treating of this disease. but simply to give its phenomena and treatment as briefly as possible - but these questions presented themselves in a manner not to be evaded - My object is to discover truth - and if in my conclusions I embrace any error your correction is solicited - To proceed then Typhus is continued fever of the Erythematic kind in which debility, irritability, stupidity and putridity are the predominating symptoms - The character of the disease being distinguished from Phlegmonous fever by the immediate prostration and small pulse of the patient and also later in the disease by the Petechiæ or purple spots which by some are called pathognomonic

It is very easy to write down the train of symptoms which generally occur in this disease - but it is not so easy by any means to find an actual case of Typhus precisely corresponding with the text as different patients presents different symptoms

and especially the prevailing diathesis will modify both the Diagnosis and Prognosis
There is another point connected with the description of Typhus which demands notice, and that is its division by authors into three stages to wit- Invasion, Excitement and Collapse, and even one more is added by Eberle called the Premonitory Stage - really if there be any difference between Premonition and Invasion I must confess my inability to discern it. This classification of stages is very beautiful in theory. and is doubtless true in many cases - but from the very many exceptions to it. The man who depends upon it and expects to find it at all times will find himself greatly mistaken. These remarks apply not only to Typhus, but to Cholera, Croup and in short to almost Every disease, for in all there is such a mingling of Symptoms - one stage running into another or even the last stage being the only one that it is useful to be guided by them

except to follow the particular indications as they are presented.

In farther describing this disease I shall necessarily use for the most part the language of the books.

In its regular form the symptoms may be enumerated as follows; A feeling of weariness and languor- loss of appetite, epigastric sinking and nausea, pale cold face with slight tremors, these are called premonitory symptoms, if this be correct then premonition and the "Morbus ipse" are synonymous- for the disease is certainly seated and in most cases if not in all will run on to its full developement- As it progresses the patient will complain of chills and fever- food will be loathed, vomiting may occur, the pulse will be frequent and feble and the general prostration will increase and well marked fever will occur. The pulse now becomes fuller- the skin hot and dry- the face flushed, the tongue thickly furred, the bowels deranged being in most cases costive,

the patient will be restless and wake-
ful, the head will ache or be dizzy, and
wandering delirium may be manifested
which continues to increase as the disease
advances, pains in the back and loins
will be complained of, and the peculiar
eruption called Petechiæ will be seen—

Such are the general symtoms of what is
termed the stage of excitement—
Collapse follows and is characterized by
a subsidence of the inflammatory symptoms
The pulse becomes very frequent and very
feeble, the prostration is very great, the
tongue becomes dry, cracked, and nearly
black, the teeth and lips are so incrus-
ted with sordes that articulation is
imperfect, nervous irritation is con-
tinual, the head is much confused
hearing is blunted, the patient is en-
tirely unmindful of surrounding ob-
jects, there will be subsultus tendinum
with general twitching of the countenance
low muttering delirium is continual

the patient will always be found lying on his back, and in most cases sliding towards the foot of the bed, and picking the covering. During this stage the costiveness is absent and a troublesome diarrhea is present - the discharges being watery and excessively fetid - the secretion of urine which in the early stages was very scanty now becomes copious and on being voided is said to effervesce. The delirium increases the patient trying continually to leave the bed or deep coma may supervene which ends in death =

These symptoms will be much modified by local lesions which may occur, these may exist in the brain lungs, liver, or in any of the viscera of either of the great cavities, in such case there will be a complication of diseases and hence a variety of indications. Pneumonia is perhaps the most frequent attendant on Typhus

unless indeed it be inflamation of the intestinal glands which is so generally present, as to be considered part and parcel of the disease=.

The affection of the lungs will be indicated by the local pain, cough, mucus & expectoration, increase of febrile excitement, as the inflamation advances the expectoration will be mingled mucus and blood of a peculiar rusty color. percussion and auscultation are the most decisive means of detecting the state of the lungs

If the brain be affected, there will be severe pain in the head, flushing of the face, the eyes sensitive to light, the delirium will commence earlier and be more continual and the Coma will be more profound

Great tenderness of the abdomen is indicative of enteric inflamation, so are the small quick and frequent pulse and retching and vomiting

There is also a form of Typhus called Congestive characterized by a want of

reaction the patient suffering overwhelming depression from the beginning.

Treatment of Typhus.

First of all the patient should if possible be removed from the circumstances which have induced the disease, and given the advantages of pure free air, by this although convalescence may not occur, the symptoms will be modified and a favorable termination will more certainly take place, and from the limited knowledge of typhus which I possess, I would call free ventilation the "sheet anchor" in the early stages. As there is torpor of the minute vessels and coldness of the surface in this stage Emetics are indicated why by relaxing the system and producing diaphoresis frequently cut short the disease, The bowels should be kept open by mild purgatives, of which Calomel is generally the best, as the bowels are not only opened by it, but the liver which is torpid is excited to action; the most efficient mode of administering this

this article is in a large purgative dose at first, and follow it by castor oil after which it should be given only in alterative doses, thus the circulation will be equalized and the surface will become warm The hot infusion of the various diaphoretic herbs may also be used to fulfill the same indication

The subject of venesection in Typhus has occasioned much discussion - If we make it an invariable rule to prescribe according to the Symptoms - we shall often bleed for we shall find in the Stage of excitement that the pulse and the general state of the patient subject is such as in other diseases would indicate the use of the lancet; still I believe the weight of experience is against its use, as prostration will speedily appear and the loss of blood cannot but hasten and increase it - Still there are times when bleeding will be beneficial and if those times are discerned by the practitioner the lancet may be used with benefit

when much inflammatory fever exists.
In this stage cold water is also of great use - The skin is hot and dry. Sometimes throughout the whole surface, sometimes confined to the hands, head, or feet, and cold water applied accordingly not only soothes the patient, but may hasten the cure. The secretion of urine is also to be encreased by indicating that diuretics should be combined with the diaphoretics, as nit. pot. may be combined with Specac. and Camphor or the Sweet Spts. Nit. with Vin. Antimonii avoiding active sudorifics for fear of exhaustion. This is the treatment during the stage of excitement, which may terminate in convalescence or in Collapse -
In collapse stimulants are the great indication, but great discrimination and care are requisite in their exhibition lest the local inflamations which have been once subdued be again brought on - By careful watching however this may mostly be avoided as

declare the State of the patient =. In the last stage Opium is useful in quieting the delirium, and restlessness and also to check the diarrhea which is one of the most dangerous attendants. Opium is generally combined with Camphor nitre or chalk —

When local inflamations exist, blisters are indicated. Solid food should not be allowed during the progress of the disease. neither in Convalescence can we be too careful of the diet, as a very slight error may induce a dangerous relapse = Such is the practice as prescribed in the books, and which has been generally followed in the cases which have come under my notice. But of late Quinine, which has not been before mentioned has been used more than any other article — whether it be for its anti periodic power or for its general tonic effect I am not aware but suppose for both = This article is used largely in the Hospitals of this State, with the most satisfactory results #

If the patient sinks it will be found necessary not only to exhibit tonics but stimulants as Port wine and even brandy, in fact these should be given throughout the disease unless contraindicated by inflammatory symptoms. but while through out the whole course an appetite should if possible be promoted. great care should be taken during convalescence that not too much food is allowed. as indiscriminate eating is frequently followed by long and painful relapse

Isaac Cleveland

Uterine Leucorrhœa

This term is applied to a whitish or colorless discharge from the vagina, whether it be caused by the morbid action of the mucous membrane of the uterus, the vagina, or both combined — It is perfectly consistent for us to infer, from the anatomical fact, that the membrane lining the uterus & vagina is continuous, that it may be the seat of leucorrhœa. Post-mortem examinations demonstrate that this may be the condition of the uterine cavity. Medical authors have from time to time alluded to this disease without noting the distinguishing characteristics of each. The distinction is important to the correct pathology of this affection as it must be for its successful treatment, inasmuch as the uterus & the vagina differ as much in functional power as in the variety of sympathetic derangements with

which they are frequently affected. No doubt can be entertained as to the variety of effect produced by the morbid phenomena ~~produced~~ of disease on different portions of mucous membrane or subjacent tissue. Perhaps then on this principle we might approach to something like an exposition of the variations in the train of symptoms and constitutional suffering observed in vaginal as well as uterine leucorrhœa; when the causes are perhaps essentially the same The diagnosis in some cases may be attended with difficulty but in a good number it may be satisfactorily established. In this connection it might be compatible with what may follow to point out a few of the circumstances in which the disease occurs not only in exposition of its nature but as furnishing more efficient ground for diagnostic symptoms. In young women of delicate and relaxed constitutional powers; it is by no means uncommon to find whites secreted previous to the development of the cat-

-amenia & vicarious of them In those cases
of suppressed catamenia, the following
monthly periods are marked by the discharge
of whites and about the same in quantity
occupying a space equivalent to that required
if the natural secretion had been present
Also it may happen that uterine leucorrhœa
may occupy the intervals between menstru-
-ation and when this is the case the leucorrh-
-œal discharges are apt to increase three
or four days before the menses & reappear
in greater profusion after their disappe-
-rance. Uterine leucorrhœa may supersede
menstruation and become vicarious of this
discharge. And this, is, in a good proportion of
the cases we are called to treat, the most com-
-mon kind of uterine leucorrhœa & the variety
which does not at its commencement encroach
upon the regular reappearance of the "courses"
& perhaps from this circumstance is more
frequently suffered to pass without the
due consideration of the patient —
Painful menstruation I think is occasionally

-caused; & may be followed by white discharges with increased secretion before & after menst-
-ruation. And this complication must necessarily add to the constitutional disturbance of the patient & the menorrhagia is not radical-
-ly relieved untill the leucorrhœal discharges are stopped. At the period of life which marks the cessation of the menses it is quite frequent that the several last periods are marked with whites with out alternating with the common menstrual discharge-
In chlorosis leucorrhœal discharges are often vicarious of the menses ——
And I now recollect the case of a Lady in whom this abnormal substitution continued for some time. But, by the prompt admin-
-istration of the appropriate remedies she gradually regained her health & in a degree her former constitutional vigor. Abortion is followed by white discharges either constantly or at definite periods for some time after this occurrance has happened.
And this state of the uterus is a powerful-

-exciting cause in subsequent pregnancy to successive abortions. After the distinctive character of the lochial discharges have disappeared in young women in their first confinements a considerable flow of whites in many cases are observed. And they may flow in moderately increasing quantity for five or six days, and a diminution of the discharges take place and yet may become somewhat persistent— The menses may supersede the uterine leucorrhœa. This event may be the cause of much alarm from the apprehention that it indicates disease of the uterus. Congestion and erosion of the cervix uteri may induce leucorrhœal discharges; & many of the cases which the Physician is called to prescribe for, may be of this kind. And I am of the opinion that we have good reasons to anticipate that this may be the pathological state of the part if, after the exhibition of the most approved remedies the disease does not yield and the gradual approach of health overcome the morbid sympathies of the parts affected.

We now have arrived at a position which will enable us to consider more definitely the progress and nature of the disease under consideration It, may be defined as consisting of a profuse discharge secreted by the mucous membrane of the uterus varying in quantity & color. Neither necessarily followed with destruction of the tissue of the parts involved in morbid action. The disease may attack females of all ages. It, may be acute or chronic, the acute form is more frequently found in the young, the chronic in persons more advanced in life. Women of every temperament and in the greatest possible variety of circumstances conceivable, are the subjects of this disease. All of which suffer from its effects in proportion to the extent and degree of severity in each individual case. The leucophlegmatic in whom from deficiency of material the uterus is for some reason not competent to secrete the florid catamenia or in whom from some constitutional causes perhaps not now to well ——

— understand the minute vessels of the mucous membrane lining the interior of the womb are perhaps in a state of unnatural activity This especially may be the case in those of a plethoric & robust habit in whom the current of blood is propelled with energy through the whole system —

Causes

The state of the general health has very much control in causing & developing the morbific causes of this disease. They may consist in the general withdrawal of the ordinary amount of local stimuli; in the deficiency of the secreting energy as in those cases where leucorrhœa is vicarious of, or introductory to the menses. Too frequent child-bearing, over suckling, the strumous diathesis exposure to cold & moisture prolonged watching, powerful mental emotions derangement of the hepatic function local determinations and congestions deficient nutrition too stimulating regimen with indolent habits atmospheric changes

-retroccsion of eruptions & the translation of diseased action in general. And to this category might be added the to prolonged administration of emmenagogues, to stimulating injections, the irritation from a pessary, instruments, and worms in the rectum. Constipation of the bowels; by the general functional derangement which this condition causes. The frequent error in the addaptation of various articles of clothing as well as by the superfluous quantity worn; and, the consequent compression, made upon organs of vital importance

Symptoms

The acute form of this disease is comparatively rare. The existing differance between this and the chronic form is explained in the greater degree of constitutional disturbance present. The hearts pulsations are quickened, and the momentum of the circulation disturbed. The skin may be hotter & drier; with thirst and determinations of the blood to the brain, with virtigo and paraxysms of hysteria. At this period-

the cervix and body of the uterus may be tender to the touch and perhaps slightly enlarged. By the sympathetic irritation the bladder is excited to spasmodic retention of urine. This state may be followed by a sensation of heat, oppression & weight in the pelvis: pains, shooting down the inferior extremities; and, may be more remotely felt, in the joints with dragging upon the loins extending to the groins hips & sacrum. And frequently the patient may suffer from a sensation of nausea & lassitude, & with partial faintness or absolute syncope. If this state of things is suffered to exist and the discharges are not mitigated & the constitutional suffering removed, they gradually subside into the chronic stage. In uterine leucorrhœa, when it has passed into the chronic stage, the symptoms are of a milder type, and the constitutional suffering ~~is light~~ compared with those of the acute. A degree of languor & occasional weakness in the back with headache now & then with intivals of comparative exemption from pain. The complexion may be unnaturally

-pale with an unusual degree of moisture about the external organs of generation. There are perhaps the most common deviations from a healthy condition of these parts. But in those cases of a more aggravated character and especially in those where the leucorrhœa has by degrees encroached upon & superseded the menses, the results are very different; & the distress, of the patient augmented. The local suffering is considerable the pain in the back or perhaps more definitely in the uterus is more distinctive; with weight, in the pelvis, and occasionally, bearing down. The constitutional suffering is also in proportion; the patient complains of languor with indisposition to exert herself, with general exhaustion & debility following both to body & to mind. The pulse are small, weak, and rather quicker, than natural The skin has a variety of appearance. It may be of a yellowish or greenish tint, relaxed, flabby and moist; at other times, ~~moist~~, dry & hot; the eyes are sunken & surrounded ~~with~~ by circumscribed dark circles. Severe and frequent headaches frequently accompany this stage of the disease: but without

much evidence of vascular excitement. There is usually no intolerence of light or sound: but in a good number of cases pain is seated in the posterior portion of the head. Vertigo & fainting are not uncommon attendants; with sympathetic pains in remote parts of the body which form a very characteristic part of the general suffering. The tongue is frequently slightly coated with a whitish or yellowish fur & may be indented with the teeth The appetite is diminished & fastidious; constipation of the bowels follows; a deficiency of the hepatic secretion, with prostration when the bowels are evacuated of their contents. The leucorrhœal discharges vary much in quality & quantity. They commonly are of a bland character and do no injury to the parts with which they come in contact. In other cases they are of a very acrid quality excoriating the labia & surrounding parts & increasing the distress of the patient. The duration of the disease is very much modified by the treatment & the existing circumstances. It may be connected with the menstrual function & these are the cases which are the most prolonged.

Pathology. It has been supposed by many taking into consideration the constitutional characteristics of many individuals thus affected that uterine (as well as vaginal) leucorrhœa may originate in debility, a condition the reverse of inflammation. Now it may be true that the general system may be in this condition — But it does not follow that individual organs are thus implicated. On the contrary we know that in very many cases of constitutional weakness the causes must be sought for in the inflammatory condition of certain organs. This perhaps, may be the state of things in the present instance; for, if we take into consideration the amount of local distress, the increase of secretion, the probable course of the disease, & the remedies which are most successful in obviating this morbid condition; we can have but little hesitation in concluding that it may be owing to inflammatory action, generally subacute or chronic of the mucous membrane lining the uterine cavity —

Dr Churchill remarks;— as to the identity of the vessels engaged with those which secrete the menses, an opinion advanced by some authors, it is very difficult to speak decidedly. In some cases, as where uterine leucorrhœa becomes vicarious of the catamenia without any intermediate steps, it appears not improbable that the vessels may be the same, though the products are so different.

Diagnosis.

Uterine leucorrhœa may be mistaken for & confounded with uterine gonorrhœa —

1st From uterine gonorrhœa, it is not easily distinguished, unless erosion be present as described by Ricord. In uterine gonorrhœa in the acute stage there is pain along the tracks of the vagina with urethral discharges & scalding on voiding of the urine. Uterine leucorrhœa may be mistaken for vaginal leucorrhœa

2d From vaginal leucorrhœa, it commonly may be distinguished by the different circumstances in which it is frequently observed; as it may be, after abortion, and delivery; "preliminary to —

—and vicarious of the first menstruation or by its peculiarities at the menstrual epochs and its greater effect upon the constitution—

As I have before stated that when uterine leucorrhœa makes its appearance during the ~~intervals~~ intervals of the catamenia the discharge of whites are increased before & after the men—strual period. This circumstance in the process of time breaks in upon the due performance of that function, tending to lessen the discharge as well as to interrupt ~~its~~ regular occurrance—

As far as I am capable of judging from a somewhat limited observation no such phe—nomena follow with vaginal leucorrhœa—

And I think it is a question wheather vaginal leucorrhœa ever gives rise to the severe constitutional sufferings which are frequently attributed to it; if they ever occur they must be rather uncommon Perhaps the results of different modes of treat—ment would not afford just grounds of diagnosis; but would be in confirmation with an opinion formed from other sources; & I have found that the astringent injections which are of—

-so much importance in vaginal leucorrhœa are of no particular efficacy in the uterine variety- Uterine leucorrhœa may be confounded, with the white discharge arising from inflammation of the glandular apparatus of the cervix"—

3rdly By the opacity of the discharges, the tenderness of the part on pressure; which is peculiar to that disease; and as Dr Churchill observes, the occurrence of either of which phenomena is accidental and only caused by the disease under consideration-

Treatment:

This is to be regulated by the amount of constitutional suffering; the severity of the attacks, & the degree of constitutional power to resist disease. In vaginal leucorrhœa astringent injections with but comparatively little other medication, is all, in many instances which is necessary to be done- with the exception of regulating the diet & freeing the bowels from morbid accumulations- & frequently no unpleasant results follow. But this is far from being the case in very many instances of uterine leucorrhœa. If bad results do not-

-follow no permanent benefits are to be anticipated-
But, the morbid discharges continue to flow for
an indefinite length of time. In other cases
they add to the already kindled irritation of the
parts; aggravating in a most eminent degree the
local & constitutional excitibility of the patient—
In the acute stage of uterine leucorrhœa the
antiphlogistic treatment is demanded. Cupping
leeching, the hip-bath with vaginal injections
of tepid water are important in conjunction
with the refrigerent purging salts —
This plan of treatment may be continued with
some modifications as the symptoms may
indicate with rest & the recumbent position
untill the severity of the acute stage is passed &
the patient brought into a condition most
favorable for the application of counter-
irritation. A blister or rather a succession of
blisters to the sacrum has the effect in many
instances of diminishing the morbid discharges
as well as allaying the local irritation —
The balsam of copaiba administered in frequent
& increasing doses is a remedy which in many—

-cases will bring the disease to a happy termination
The preparations of iron in the treatment of this affection are of the greatest efficacy. The sulpate of iron exhibited in conjunction with the blue pill or the compound rhubarb pill according to the development of symptoms in many instances exert a controlling influence by invigorating the digestive system - removing torpor, congestions local determinations, and in this way or in some other has a decided effect over the leucorrhœal discharges —
The muriated tincture of iron is a preperation frequently resorted to with the most flattering results. A decoction of logwood has the reputation of curing leucorrhœa by some practitioners. Ergot of rye has its advocates and no doubt in the hands of the skilful, and in certain pathological states might be instrumental in facilitating a cure —
Colchicum, cantharides, cubebs, spirits turpentine iodine & its preperations all have been thought to be worthy of trial and doubtless in very many instances will do good —

Dewees speaks highly of nitre & alum with the vegetable bitters. Eberle states that he has been in the habit of combining alum with ipecacuanha & has witnessed more than once the happiest effects from its exhibition. When "vitiated with inflammatory action I have frequently found tannic acid a valuable remedy in restraining the quantity of the discharges and increasing the strength of the patient. The aqueous solution with a small proportion dilute nitric acid is a combination convenient for exhibition. Opium is a powerful auxiliary in the treatment of uterine leucorrhoea. It not only renders the condition of the patient comfortable by allaying the general constitutional and local irritibility; but it has a commanding influence over the leucorrhoeal discharges— Conium, hyoscimus, combined, with camphor are admissible when opium & its salts, from a peculiar idiosyncrosy are contra-indicated— In the declining stage of the disease much comfort as well as benefits will be derived from frequently sponging the back, loins, & abdomen—

with salt water. When the patient has recovered from the depressing influence of this disease so that the system will respond to the treatment the cold bath with friction may be resorted to with a fair prospect of benefit. Should constipation occur as frequently it does, the blue mass with aloes, or asafoetida with rhubarb the extract of dandylion with sanguinaria combined with ~~with~~ more active cathartics may be exhibited if the case require. Castor oil with emolient enemata are very useful in obviating this condition. The moral treatment of the patient is of the highest importance— A well regulated exercise with a change of air and absorbing amusements with variegated scenery, followed with a judicious selection of a general & prolonged tonic course will in many instances prevent a relapse to which some are obnoxious—

Cynanche Trachealis

Gentlemen

I propose briefly to consider that disease of childhood known by the familiar name of croup - The Cynanche Trachealis of Cullen. This disease may attack children of any age from three months to puberty. They are peculiarly liable to it soon after being weaned and a European writer who had Extensive practice in croup says that the earlier they are weaned the more liable they are to have the disease.

It more commonly occurs at the age of from one to two and three years, but it is occasionally met with in adults. Watson states a fatal case, in which the patient was a girl of 19 years of age, & Professor Dyes of this Institution says

he has seen it in a patient of 60. Such cases however, are rare. The symptoms at first appear, in some respects like catarrh.

The child has, what is commonly called a cold, a dry, hoarse cough, with slight difficulty of breathing, and perhaps a slight change in the tone of the voice—

This state may continue with occasional remissions for several days before the disease puts on an alarming character, and those unacquainted with the nature of the affection would apprehend no danger Soon, however respiration becomes more difficult, the skin hot and dry, the pulse tense, and sometimes full, the cough more sonorous, and the voice weaker and more indistinct. The disease now advances with rapid strides. The countenance is flushed, the eyes prominent injected and heavy, the pulse indicating a high degree of inflammatory action, and respiration very difficult. Inspi

ration accompanied with a very peculiar stridulous, ringing, sound, which needs to be heard but once, to be recognized ever after. As the disease continues its progress, the breathing becomes extremely distressing, the cough husky and inaudible, the face pale, and livid, the extremeties cold and clammy, the head thrown backwards, the mouth widely open, the nostrils dilated. Drowsiness comes on, the breathing becomes gasping, and death closes the scene.

This is its usual course. Not unfrequently, however, the premonitory symptoms, either do not exist or are so slight as to escape observation, and the approach of the disease is first heralded by the "tussis clangosa" the ringing cough which reveals to the experienced ear, the alarming character of the disease, and awakens in the mother's breast, the most anxious forebodings. She flies to the bedside, and finds perhaps, her child gui-

etly sleeping, with nothing unusual in its appearance. Soon however the cough is repeated, the other symptoms make their appearance in rapid succession, and the disease is established.

Pathology. The disease consists essentially of inflammation of the mucous membrane of the trachea, sometimes extending to the larynx above and occasionally affecting the Bronchi, and their ramifications below. Some authors make no distinction between Cynanche Trachealis & Cynanche Laryngea, while others, among whom I may mention Eberle, & Watson, consider them as two distinct diseases. Similar indeed, in many respects, but distinguished from each other by definite diagnostic signs; by the period of life in which they occur, the former rarely occurring in adult age and the latter, as rarely in childhood — and requiring in some respects a different course of treatment for their cure. In

Laryngitis the mucous membrane of the Larynx becomes turgid and swollen, the subjacent cellular tissue becomes infiltrated with serum, in consequence of which, the rima glottidis is so nearly closed that a sufficiency of air cannot pass to the lungs, thus inducing a sense of suffocation. The Epiglottis, often enlarged & fixed by the swelling in an upright position, offers no obstruction to the passage of food & drink into the air passages when an effort is made to swallow, thus causing paroxysms of choking Dyspnœa. In Tracheitis the air passage is filled by the exudation from the lining membrane of the trachea of coagulable lymph, similar to that formed by inflammatory action in the internal membranes, and forming a concrete membrane-like substance called the membrane of the croup. This substance is sometimes expectorated entire in a tubular form of nearly the exact shape of the trachea and sometimes in frag-

ments. Its production is not always confined to the trachea, but is frequently found lining the ramifications of the Bronchiæ. It does not adhere with any great degree of firmness to the mucous membranes, and is sometimes found after death quite detached, so that, apparently, it could have been expelled without difficulty, could the lungs have been sufficiently inflated. Sometimes the adventitious membrane is not formed at all, but the inner surface of the trachea, reddened and tumid, is covered with a viscid, mucous, which sometimes threatens suffocation by obstructing the glottis. Authors are not agreed as to the origin of the membrane. Some consider it as simply a secretion of the mucous surfaces, while others think that it originates from the submucous cellular tissue, exuding through the thin, delicate mucous mem-

brane of childhood. The opinion, commonly entertained, however I believe is, that it is a secretion of the mucous membrane

Causes

Exposure to cold and moisture is one of the most frequent exciting causes of this disease, hence it occurs more frequently in winter and spring than at other seasons, and in neighborhoods in the vicinity of large bodies of water. Sleeping in damp rooms, Exposure to cold, damp winds & storms or having wet feet for any considerable length of time will frequently bring on an attack of croup.

It prevails more in low & damp situations than in the uplands, where the cold winds blow more freely scattering the aqueous exhalations that fill the air. Children are peculiarly liable to it, during convalescence from measles or scarlatina and those who have once

had it are very liable to a recurrence of the attack. There is also in some families a congenital predisposition to this disease. Every slight cold or any exposure to the weather, which in others would be attended with no ill consequences, is very apt in such children to be followed by an attack of croup. What this predisposition consists in it would be in vain to inquire

Diagnosis

There are but few diseases that the Physician would be liable to mistake for croup. The first stage of Measles simulates it in some respects There is the same dry, hoarse, cough and a peculiar sound in inspiration, but which would be easily distinguished from the sound produced in croup by any one who had ever heard both. The fact also that measles prevailed in the vicinity or that the patient some ten or fourteen

days
previous had been exposed to them, would
assist in the diagnosis untill the efflo-
rescence took place, when of course all doubt
would be at an end. Hysteria, also among
the multiplicity of forms which it assumes, some-
times takes on the appearance of croup. Here
the sex, age and history of the patient will
ordinarily be sufficient to establish the di-
agnosis, as hysteria rarely occurs in any but
females after the age of puberty.

Many authors, as I have already men-
tioned, make no distinction between Croup
and Laryngitis. As however the seat of
disease is different in the two, the one
affecting primarily the Larynx and
the other the trachea, and as they are
followed by different symptoms, re-
quiring different treatment, I am of o-
pinion, that they should be treated of
as distinct affections. Some of these dis
tinctions I have already pointed out.
I would here remark in addition, that

in croup, there is usually no difficulty in deglutition while on the contrary in laryngitis, dysphagia is rarely nosent. In the treatment of the two, a surgical opiration frequently effects a cure in the latter while it is rarely of any avail in the former-

There is another disease known by the name of spasmodic croup, that is sometimes confounded with Tracheitis. It makes its attacks suddenly in the night and generally comes on with great difficulty of breathing, the inspiration accompanied with a shrill whistling sound like that of croup. It may be distinguished from Tracheitis however by the absence, in the spurious disorder, of all inflammatory symptoms

Prognosis

This depends very much upon the progress the disease has made when first detected & the promptness with which the appropriate remedies are administered

Formerly, it is said, that four children out of nine attacked by it, died. At present, the number of recoveries and deaths are, I believe, about equal. It has been divided into three stages, the first or forming stage, the inflammatory stage and the last or suffocating stage. In the first of these stages, the disease yields certainly, and easily to treatment. It very frequently happens however that, owing to the mildness of the symptoms in this stage, that it is suffered to go on without treatment till the inflammatory stage is fully formed. Here the danger is very much increased, and the most active and energetic treatment is required. Should we be unsuccessful in arresting its progress here, the suffocating stage will soon arrive, in which the power of the healing art will rarely avail to save the patient's life.

It now remains for me to speak of the Treatment.

As I have before remarked, take it early, there is no disease we are called upon to treat

that yields more easily, or certainly, to appropriate remedies. And perhaps there are few, we have more reason to despair of curing, if allowed to attain its full strength, before medical treatment is adopted, or few, in which more active and energetic measures are required, to check the progress of morbid action, after the disease is once firmly seated. Hence, the necessity of watchfulness on the part of parents to detect the earliest symptoms of the disease, that it may be "strangled in its birth"

In the forming stage, when there is hoarseness & croupy breathing with but little or no febrile excitement, the administration of a gentle emetic of ipecacuanha, followed by Expectorant or nauseating doses of compound syrup of squill, or sanguinaria, combined with mucilage as flaxseed, pushed to produce emesis, if necessary, together with application of irritants, such as spirits turpentine, aqua ammonia, vinegar & mustard &c to the External throat, will rarely fail to effect a cure. Should the bowels be confined, a dose of castor oil, or a purge of Cal-

omel may be administered. The throat should be protected by a covering of flannel, and all exposure carefully avoided. Should this course of treatment fail to arrest the progress of the disease, or should the inflammatory stage be formed before the patient is seen by the physician, the treatment will need to be more active. Large doses of Tarter Emetic from 2 to 6 grs may be given followed by calomel, or they may be given in combination. Where the patient is strong & plethoric, venesection should be employed, or local depletion by Cups & Leeches. The warm bath is of the greatest efficacy, and should never be omitted.

Some practitioners rely almost exclusively upon calomel, but the system cannot be brought under its influence speedily enough, to render such reliance safe. Tarter Emetic is much more active in its operation, and should it fail, it need not long interfere with the mercurial treatment. Sanguinaria, Lobelia inflata, and Sulphate of Mercury & a variety of other medicines have been used, but except after the formation of the membrane, I do not think their exhibition ad-

visable. In the last stage, where the object is to expel the membrane, they may perhaps be of service, but when the disease has reached this stage, recovery is very rare. Sulphate zinc combined with ipecac has been recommended, in this stage with blisters applied to breast & neck the vapor of hot water & the warm bath.

Dr Dewees recommends, in this stage of the disease, a strong decoction of the Seneka root, administered every fifteen or twenty minutes, till Emesis is produced He says "the only instance of the expulsion of the membrane he ever witnessed, was produced by the exhibition of this medicine."

As the obstruction of the air passages in the last stage, is purely mechanical, as far as we know, the question arises, whether a surgical operation to remove the obstruction, would not be successful. Could we be sure the exudation was confined to the upper part of the trachea the operation might possibly be successful, but even where the formation of the membrane is confined to the upper

part of the passage, so long as the lining membrane is pouring out its secretions the removal of that already formed will be of little avail. But a still stronger objection to the operation is that the exudation extends, usually, beyond the trachea into the ramification of the bronchia. When the disease has come on suddenly the probability of success is greater than where it makes its approach more gradually, as the inflammation in that case will probably be limited to upper part of the passage. The operation has been frequently performed, but very rarely has it been of any avail. Still it may offer a chance, a very small one to be sure but in many cases the only chance of saving the patient's life.

It is not to be expected from the pen of a mere tyro as it were that any thing new or original should be presented to you; and I frankly admit that I am indebted to the writings of others, & to my worthy instructors, for nearly every thought or idea which I shall advance.

Of all the multifarious diseases to which infancy & childhood are obnoxious, there are few more distressing or if left to themselves more surely fatal, than Croup; but thanks to the advancement of the age the number of fatal cases at the present day are few, compared to what they formerly were: owing most undoubtedly to the disease being better understood & consequently more skillfully treated.

Forty years since, according to the writers of that time, by far the greater majority of those attacked by Croup died: whereas at the present day the fatal cases are comparatively rare.

Several have been numerous names given to this disease by different writers; as Bronchial - Tracheitis, Angina - Suffocativa, Angina - Membranacea &c. names intended to express some of

the most prominent symptoms, or favouring some particular theories, respecting the cause, seat or nature of the disease. But as one or more of these symptoms may be absent, and as the term Croup involves no theory or hypothesis, this is the name which by common consent it is most usually known. It has been made a matter of dispute among anti-quarians in the profession, whether this disease existed amongst the ancients, but as the same causes obtained then as now, & as a disease nearly resembling Croup was described by Hippocrates, & other ancient writers, there can be no reasonable doubt but that it has existed since the days of our venerable ancestor Noah.

The usual habitat of this disease, like most others affecting the breathing apparatus, is confined to the northern & temperate latitudes & especially to low & damp situations. The seasons in which it is most rife are the latter part of Fall, Winter & the commencement of Spring. It is peculiarly a disease of childhood, but not of infancy, the greater majority of cases occuring between the 2nd & 5th year.

Martin Ghisi of Bremona is the first writer who gives a clear & satisfactory description of Croup, as it prevailed at that place about a century since.

Dr Home in 1765 wrote an essay on the subject & designated more clearly than ever before had been done its distinctive character; since then the first medical authors of the day both in this country & the old have written much on the disease & although there has been much clashing of opinion in regard to its character, some supposing it to be in every instance inflammatory & others a spasmodic disease, whilst others take a conservative view & consider it a combination of the two. they altogether have added much to our stock of knowledge as to its character & treatment.

Authors have undertaken to prove by an anatomical & physiological course of reasoning why it is that Croup is so generally confined to childhood.

The principle reasons which I may assign & which I think appear reasonable are the straightness of the air passages at this age, the imperfect formation of the larynx, ie, the narrow filpne of the glottis, which is very much narrower in the child

than in the adult; the extreme susceptibility of the mucous & sub-mucous membranes to take on inflamation, the difficulty of expectoration, the activity of the circulation, the imprudence of children in exposing themselves whilst in a state of fatigue perspiration &c. The morbid pathology & anatomy of croup are interesting & important.

There are undoubtedly two kinds, an inflammatory & spasmodic variety; the latter uncombined is exceedingly rare, but is frequently found combined with the former. The cause of the spasm is thought to be pressure made on the recurrent nerves by the inflamed & swollen state of the parts, this interfering with their functions. Dissections after death disclose the results of inflammation. Not of the kind that usually attacks mucous membranes, but of a specific character resembling closely the ordinary inflammation of serous membranes, characterised by the pouring out of a fluid resembling lymph.

This peculiar product lines the trachea sometimes forming a complete cast of that tube passing through its middle, it usually extends

upwards into the larynx & occasionally may be seen lining the tonsils & adjacent parts, which latter is laid down by some authors, as indicating the worst form of the disorder.

It also extends in some instances in the opposite direction lining the bronchiae.

This formation is so characteristic of the disease that it is called the membrane of Croup,

It frequently forms in an astonishingly short space of time, it has been known to form in 6 or 7 hours & completely blocking up the passages, it is this which leads to the disease nearly all its dangers.

In long standing cases there is frequently form a liquid effusion in the lungs. When this membrane is detached the parts are found red & inflamed. In some rare instances there is no membrane found, but merely inflammation.

The causes of Croup may be divided into predisposing & exciting. The predisposing are numerous, viz, any thing that has a tendency to debilitate the system generally, hence it is frequently ingrafted on Whooping-Cough, Measels, Scarlet-Fever, Catarrh, and a former

attack of the disease itself, which unlike most of the diseases of childhood instead of giving it an immunity from the disease in future actually renders it more susceptible to a recurrence.

The manner in which children are clothed in our fashionable society, with arms, legs & neck bare, is undoubtedly a prolific source of the disease. In Germany it is said where children are clothed as common sense would dictate, with regard to their comfort rather than fashion, the disease is comparatively rare. The most frequent existing causes, are, exposure to cold & moisture, hence its greater frequency as before mentioned in the colder climates & during the cooler seasons of the year. The symptoms of Croup are usually divided into three stages, corresponding to the three stages of the disease, to which a fourth may with propriety be added, ie a premonitory stage, which though not always present, is so frequently, & when it does obtain is valuable to place the friends on their guard, thus enabling them to meet the disease at its very commencement with appropriate remedies, for in this disease as well as others, the old adage

emphatically holds good "that an ounces of prevention is worth a pound of cure". These premonitory symp-
-toms are those which usually attend a communcat-
-ing coryza, sneezing, cough, feverishness, together
with a peculiar hoarseness when the child speaks
or coughs, which last is not an unusual symptom
in the ordinary cold of children. These symptoms
may last a day or two, when those more character-
-istic of the disease arise. During the first
stage the disease is purely local; consequently the
symptoms are of a local character: more or less difficulty
of breathing is experienced with loud inspirations
resembling somewhat the clucking of a fowl, or
rather the working of a piston through a syringe not
caused by the passage of air through the preternaturally
crossed glottis, increased hoarseness of voice, pain, referred
to the region of the larynx, by the child putting its
hand in that direction, but the symptom must be
suspended upon in this stage, & although partially
one of the complaints, is a peculiar brassy cough
which when once heard can never be mistaken for any thing
else, but would be difficult to describe in words.
Following this cough, there is a croaking inspiration resem-
-bling

somewhat that of the whooping cough.

The <u>second</u> stage is characterized by an increase of the foregoing symptoms, the system at-large is more affected, there is a decided febrile action, a hard pulse, white tongue, hot & dry skin, a whizzing sound may be heard by applying the stethescope over the lungs, & a sibilant rhoncus over the chest, whilst a dull sound is produced on perculsion. Dr. Ware, in an essay on Croup published in the Boston Medical Journal, mentions as the result of long experience and observation, that when the false membrane is observed about the fauces, it indicates a very malignant form of the disorder & is seldom recovered from.

Sometimes the cough excites a retching followed by vomiting of a glairy mucous, with a transient alleviation of the symptoms.

The third & altogether the most fatal stage is attended by the false membrane so remarkable in this disease, & almost the only exception of a membrane forming on a mucous surface. The presence of this is indicated by the child throwing back its head & neck thus endeavouring to keep the passages patent as it were. Shreds of this membrane are occasionally coughed up,

especially after natural or artifical vomiting, or a more solid piece may become detached & be expelled by coughing, or may become wedged in the already narrowed glottis, preventing the passage of air to & from the lungs like the valve of a pump, thus causing immediate death by strangulation unless instant relief be given, the dyspnoea is much augmented, the little patient grasps any thing at hand, the back of a chair for instance to give it support & thus enable it more fully to bring into action the voluntary muscles of respiration, or it is continually changing position in the vain attempt to find a more easy one, the face is turnid & livid, in consequence of the incarceration of non arterialized blood. swelling of the canticles, if the patient is plethoric the brain may become apoplectic, delirium is occasionally present, the alae nasi are expanded, towards the last the cough ceases on account of air being precluded from passing the closed passages, notwithstanding the effort of coughing is made by the muscles of respiration, the pulse intermits - cold sweats break out over the whole body & coma or convulsions close as scene of the most of the most appalling distress that the physician is

ever called to witness. During the first two stages there are occasional remissions, & more rarely perfect intermissions. Sometimes the child will to all appearance entirely recover & for several days return to its wonted amusements, to the great delight of its friends, who flatter themselves that the disease is subdued & all danger over, when suddenly a relapse comes on unattended by any premonitory symptoms, most usually during the night, & proves fatal, often before the medical attendant can be called. Such being the case, the prudent physician will be careful in pronouncing his patient well & out of danger until a week at least has elapsed without any return of the croupy symptoms. The prognosis is generally favorable if the patient is seen early, but of course will depend on the urgency of the symptoms present, the previous health of the patient, the character of the prevailing epidemic &c. As in this disease every thing depends on prompt & early treatment &, as the symptoms most readily yield to remedies in the first stage (whereas if it be allowed to exceed this, the danger is fearfully augmented). it is very important that it should be recognised at its very

commencement & as soon as suspected to loose no time in waiting for more distinctive symptoms.

The indications of treatment are, first to bring about a healthy action & restore to the parts their natural secretions, which are usually diminished or in some way perverted; the most effectual method & that usually employed is the administration of an emetic, & all things equal tartarized-antimony is to be preferred, as it is efficacious & admirably adapted to children on account of its tasteless, a grain may be given every 20 minutes until free vomiting takes place, but should the subject be very young or reduced by previous disease, this remedy may be too powerful & had better be given in combination with ipecac, 2 pills, or some of the other efficacious emetics, a good form is from 1/2 to 3/4 gr antimony with 10 gr ipecac: or Oxymel of 1 squills 1 ounce, to vinum of antimony 1/2 ounce, a teaspoonful at a time repeated every 20 minutes until vomiting results; which will often produce the happiest effects, bringing about a healthy action of the liver, pancreas, skin, mucous membranes & in fact all the secretions, & producing a state incompatible with that of the disease, & thus breaking it up in its very commencement. If the bowels have not already been moved by the emetics, 5 or 6 gr of calomel followed by a

teaspoonfull of Castor-Oil or an enema. This treatment should be followed up by smaller doses of the expectorant emetics sufficient to keep up a degree of nausea, but short of producing vomiting: in order to keep up the natural secretions.

This is generally conceded to be judicious treatment for the forming stage, & if the patient is carefully guarded from atmospheric vicissitudes & other exciting causes it will rarely pass beyond this stage.

But if in spite of our well meant endeavours the disease runs on & the 2d stage is established it will be indicated by a decided febrile reaction, & other symptoms before laid down. If the pulse is full & hard, our sheet-anchor consists in the abstraction of blood, & the relief to all the symptoms from this remedy is often immediate & permanent; if untoward symptoms return, recourse should again be had to bleeding, perhaps in less quantity than at first. The amount of blood to be taken, & the best mode of abstracting it, has been much discussed by different authors; some recommending bleeding from some large vein ad-deliquium, whilst others reprobate altogether the custom of general depletion as both useless & injurious, depending entirely on topical bleeding & that to a moderate

extent only. And bearing in mind that a topical bleeding in a child may be equal to a general one in an adult, & the advantage that is unquestionably gained of emptying the vessels in the immediate vicinity of the inflamed parts, & also as large general bleedings in such young subjects may produce alarming prostration, & has even proved fatal by syncope; I am inclined to be a votary to the topical system.

A few leeches may be applied to the top of the sternum & if necessary cups between the scapulae, which are upon the whole perhaps the most convenient situations, as pressure can be made and the bleeding stopped at any moment.

No definite rule can be laid down either as to the quantity of blood to be taken, or the propriety of repeating the operation, it may be broadly stated that 2 to 4 oz may be taken from a child 2 years of age & more or less as the age varies from this, the vigour of the child, or the urgency of the circumstances.

If the symptoms do not decidedly yield after this, it will be advisable to administer an emetico-cathartic, 5 or 6 gr of calomel combined with 1/4 gr of tar-emetic given every 20 minutes until it operates; the action caused

on the biliary & intestinal secretions, together with the nausea it creates, often has a powerful influence in subduing the disease: if the skin is hot and dry the warm or tepid baths may often be employed with decided efficacy. Small doses of mercury combined with some of the expectorants, if the bowels are constipated one gr. Blue Pill, if diarhea exists a like quantity of Hygg-carb-Creta combined or alternated with a few drops of Syr Squills & antim or an equivalent dose of the Polygala-Senega, given every hour or two. By these means we can usually abate febrile action, equalize the circulation, restore the natural secretions, and thus as was before stated create a state of the system incompatable with that of the disease, & if the patient is closely watched, & the least aggravation of symptoms met promptly with efficient remedies, it will seldom exceed this stage. But should it pass the bounds notwithstanding all our endeavours to the contrary &, the blind or membranous, &, as some call it the fatal stage, establishes itself heralded by symptoms before enumerated, unless prompt relief is given by art, (for nature is seldom of herself sufficient) the patient must allmost necessarily die.

The inflammation has now subsided & is succeeded by

its opposite state or that of debility of the circulating & nervous systems, characterized by a small pulse, cold skin moist, blunted sensibilities, &c. The false membrane filling or nearly filling the air passages constitutes the essential danger of this stage, & the obvious indications of treatment are to assist nature in the loosening & expulsion of this obstruction, & to bring about such a state of parts if possible, as to prevent its reformation.

Of course all debilitating remedies should be immediately withdrawn & the use of an opposite nature substituted: The acrid emetics are the remedies mostly to be relied upon, & at the head of this list may be placed the polygala-Senega; this given in emetic doses every 15 or 20 minutes until it operates, followed up by smaller doses at the same intervals, will often by the vomiting & irritation it produces be followed by the expulsion of the adventitious membrane, which will not unfrequently be coughed up whole, to great relief to the feelings of the patient, & entirely averting the present danger, & by a revulsive or alterative power it changes the morbid action of the parts to a more healthy one, thus preventing a reformation of the membrane.

Among other remedies which have been used with encour-aging success are, the Sulphates of Zinc & Copper, which have succeeded when other means had failed; 5 to 10 gr of either of the above sulphates repeated until vomiting results, is frequently followed by the expulsion of the membrane, & saving the patient whilst on the brink of suffocation. The local application of nit-argenti to the fauces & glottis, if these parts participate in the disease, is much approved of by some practitioners. Counter-irritants applied to the throat often do good ser-vice by rousing action, or causing a revulsion of the parts. A mixture of Capsicum & Tr Cantharides, or a sponge wrung out in warm turpentine, or hot water, are good applications for this purpose. The inhalation of steam is sometimes useful, by softening the membrane & lubricating the parts. It has been proposed as well as performed, by some venturesome practitioners, to apply some irritating substances immediately to the glottis, & thus by exciting a fit of coughing, have hoped to expel the membrane: but it is to say the least a hazzardous experiment. Many other remed-ies have been used in this disease & much ex-tolled by their different advocates.

But as I have already trespassed on your valuable time, I shall notice but one of them: viz" the calomel plan of treatment"; which appears to be growing into deserved repute with many physicians of high standing; it consists in the administration of calomel in the heroic doses of 30 to 60 gr at the very commencement of the disease, or after other remedies have failed in arresting its progress. It is by no means a very new practice, although it appears to have gained more advocates of late than formerly. As long since as the time of Dr Rush it was thought highly of by some, & this celebrated author speaks of giving it in the enormous quantity of 300 gr in 24 hours with complete success, when every other means proved unavailing, & the patient reduced to the brink of the grave.

As a desired-resort, the question arises whether tracheotomy may be resorted to, to give the patient one more chance of life. This operation which is so successful in its kindred disease, Laryngitis, will generally be of little avail in Croup, which is what we might expect, for if we bear in mind the relative morbid anatomy of the two diseases, the reason becomes obvious. In Laryngitis the larynx alone is affected, whilst the passages below remain patent; in Croup not only the larynx, but the trachea bronchiae & even the lungs themselves, are clogged up with

the adventitious membranes & effusion.

Such being the case, as we cannot make an opening below the point of obstruction, but little benefit may be hoped for from this operation, &, the unsuccessful terminations of the cases where resort has been had to it, bear us out in this statement, & are far from encouraging a repetition of the practice. Another thing to be considered in this as well as in all other diseases, is the character of the prevailing epidemic, or as some express it, the prevailing diathesis of the season; as in some seasons the disease will be highly inflammatory from its very commencement, demanding prompt antiphlogistic measures; whereas at others, typhoid symptoms will prevail more or less throughout the whole course of the disease, demanding a diametrically opposite mode of treatment.

R. H. Colby

Diagnosis

To alleviate human suffering by arresting the ravages of disease – To protract the brief period of human existence and thereby increase the sum total of human happiness – in fine to produce and perpetuate that harmonious action of all the organs of the system in which consists the most perfect health is the benevolent object & study of the physician.

Since the fabled days of Æsculapius it has not wanted its disciples. And as the intelligent student of the 19th century, from mid the luminosity of a dozen elaborate sciences, peers back through the dim vista of time and traces the history of the healing art, his mind is excited by varied emotions according as he regards it in its different aspects. In primitive mythological ages, medicine was but an element in the hands of the priesthood of that superstition which then enslaved the world. Practised only by the priests and always in connection with their religious rites its efficacy was always associated in the minds of the people with a supernatural agency. Thus invested with a sacred character though not by its sacred keepers improved it remained for a time but a useless appendage to the ponderous system of fabulous philosophy, which then so long and so wonderfully shrouded truth

in darkness and enchained the struggles of human wisdom. Medicine then in its widest extent comprised only the application of a few simple herbs, the remedial powers of which were most religiously ascribed to a preternatural influence. At a later and more favorable period when mental activity had diffused itself among the people, and priests did not usurp all the thinking, it took a better footing, it gained a broader basis and under the cherishing influence of the schools it assumed an honorable and responsible position among the speculative philosophies of the times. But yet its growth was slow. For this there were obvious and potent reasons. The subject was vast in its field of inquiry. It asked of Nature her most mysterious and secret operations. The collateral auxillary sciences were yet undeveloped - much of them unknown - and last though not least, popular error ignorance & prejudice, has ever reared up a high barrier to its advancement, and even now this is unremoved nay undiminished. In view of such opposing difficulties, it is not so much a matter of wonder that our science has advanced tardily, as that it has issued at all from the darkness and gloom in which it was enveloped - that it has risen superior to every obstacle, not always by removing them for many still exist with unabated force, but in spite of them. From this brief retrospect it is evident that the progress of medical science has not been

continued and uniform — but necessarily irregular - convulsive - now stationary & stagnant and anon making a long and vigorous stride onward as some mighty mind, to whose human frailty has been imparted a spark of Divinity, has appeared upon the great drama of the world, and rushing across the field has made his mark upon his age and given an impetus to our science that will be felt throughout all time. Such a mind was that of the accurate and practical Hippocrates. He was the first to relieve medicine of the trammels of superstition and the delusions of philosophy. He appears to have been a man of strong, sound, judgement; and eminently practical. He did not follow blindly and contentedly in the footsteps of his predecessors, but standing aloof, where he could take a clear comprehensive view he watched with keen discernment men's practices and their results, and detecting truth from error with consummate skill, he opposed the one by developing the other. Conducting his professional researches upon the principles of the Baconian philosophy he arrived at conclusions which the experience of more than 2000 years have but confirmed. Nay in some instances his penetrating judgement outstripped succeading ages, and we now only begin to recognise the truths which he discovered. (vide Anasarca) Such important additions did he make to the medical art that he won for himself the well merited Title, the Father of Medicine. From these few reflections

upon the history and progress of medicine, the question suggests itself, upon what does the advancement of the science mostly depend? To what does Hippocrates and other of those great minds who have mostly contributed to it owe their success and their fame?

Every science and every art has some particular principle which is the keystone to the whole fabric, which supports and maintains the other parts, all in their respective places; which other parts though they are just as essential as the keystone, yet without the keystone would be but a confused mass having neither fashion nor form. Now the keystone to the Medical Science methinks is Diagnosis. Accurate - correct - unmistakable diagnosis. A perfect knowledge of the existing pathological condition in any given case, should certainly precede any attempt to improve that condition

The laws which govern all human reasoning are just as true in medicine as in all other departments of human action. The skillful millwright does not resort to his shop to repair a damaged mill until he has thoroughly examined the machinery and discovered the defect. The watchmaker first detects the derangement of the works before he attempts their adjustment. How much more than should the physician understand thoroughly the much more complicated structure of the human system when deranged, before he resorts to his drug shop to remedy an

abnormal condition the exact nature of which he is utterly ignorant of. Diagnosis then as its name implies is one of the most important branches of pathology. The word means to distinguish and as used in medicine to distinguish diseases.

There are two conditions in which man can exist. Or according to Prof Liebig's theory, there are two forces acting upon animated nature. the one a vital force which predominates in health, and is conservative: the other physical which predominates in disease and is destructive. In other words, so long as the energy of the vital endowment is undiminished. and manifests itself in the harmonious action of all the various functions and structures with which it is associated, so that all the operations of the body are duly and steadily performed that is the condition of health. But when the energies of this vital principle are impaired, or excited or in any way changed, either in part or the whole of the various functions in which they manifest themselves, such aberration from the natural condition constitutes disease. In either of these states then man may maintain life. In a healthy or physiological or in a diseased or pathological state.

The healthy functions of life form the study of the physiologist, whilst the description of the organs performing them belongs to the anatomist. It is with the derangements of both functions

and organs that the pathologist and practitioner are chiefly concerned.

To understand the exact derangement which exists in any given case is to form a diagnosis. The sources from which a diagnosis is derived are universally understood to be the History of the case the Symptoms, Effects of Remedies, and morbid Anatomy. To discover, and accurately distinguish from these sources the seat, nature extent and progress of the morbid lesions, being essential to the establishment of a rational and successful plan of treatment.

History. From the History the diagnosis is greatly aided; as it includes the causes, course and duration the cue to other enquiries is easily taken. A knowledge of it is chiefly serviceable in narrowing down the field of investigation, and directing the attention in the proper channel. A diagnosis it is true can seldom be fully formed from the history alone; but if the history cannot always tell what the disease is, it may indicate what it is not, and thus indirectly though quite as certainly guide to what it is.

From its congruity or incongruity with the supposed disease a negative result may often be found. But that history may be most serviceable as an element in diagnosis it is essential that the practitioner be practically familiar with Etiology. Most diseases have two causes, an exciting and a predisposing cause.

The exciting cause always exists however slight or trivial it

may be. For we cannot conceive of any action or any change in action taking place without an adequate cause to produce it. The predisposing cause does not always exist. There are some exciting causes which are so powerful that they produce when applied the same effect – the same disease independent of any predisposing cause; such are many noxious substances – certain contagions &c. A knowledge of such causes at once reveals the disease. But there are many other exciting causes whose effects are seemingly regulated by the predisposing cause.

Now this latter cause cannot always be understood, but its existence is inferred from the fact that where several persons are exposed to precisely the same exciting cause, they will each be affected by it in different ways; and this diverse result is attributed to what is termed the predisposing cause, that is some particular diathesis or condition of health peculiar to each person.

Those predisposing causes which are best understood, are peculiarities of Temperament and of Figure, Hereditary tendency to certain diseases. Sex. Age. The Epochs of Dentition. Puberty, and of the cessation of the Menses, and finally different Climates.

On the effect of Temperament, no rules can be relied on. Much that has been written is more the result of theory than of observation.

The diseases to which certain Figures are supposed to predispose to

are but little better established; though it is believed that people with short thick necks are more liable to apoplexy, and those with narrow flat chests are inclined to phthisis. Yet both of those assertions have been denied. In regard to hereditary disease; no fact in medicine is more fully confirmed than that certain diseases are transmitted from parent to offspring. I need hardly instance consumption, Scrofula Syphilis and the like. But others such as cataract of the eye, deafness, emphysema, gout apoplexy and hemorrhage from slight causes are by many considered as hereditary. But these assertions are in dispute and from the difficulties of the question will always remain so.

Of sex, it is sufficient to say that independent of diseases belonging exclusively to the genital organs, males are found to be more subject to gout, stone, rheumatism, and acute thoracic complaints; females to chorea, hysteria and disorders of the nervous system. But these distinctions can be scarcely trusted to in diagnosis, as each sex are subject to them, only in different proportions.

Age exerts an influence upon disease in ways that can sometimes be understood and sometimes not. It is know that infants are more subject to diseases of the mesenteric glands; Children to scrofulous affections; the middle aged to phthisis; and the aged to cancer.

Climate. There can be no doubt that its influence is a powerful agent both for the production & removal of disease. The fact is well known that inhabitants of hot countries are subject to diseases of the liver and digestive apparatus, while those of cold regions are more liable to thoracic inflammations.

Symptoms. But it is upon the symptoms of disease, or changes of function, the second source of diagnosis, that the practitioner mostly relies. These have been happily styled the language of the suffering organs. And unless this language be understood, and its true meaning comprehended, it is utterly impossible to determine the precise condition of the affected organs, and equally vain to attempt their restoration to health.

The most intimate familiarity with symptoms unless considered as signs and indices of internal derangement, would be as completely useless as practically, as the ability to pronounce the words of a foreign tongue to which you can attach no meaning. They are signs intelligible to him who understands them, but blanks or worse than blanks, sources of deception, to others. The object of the study of symptoms then is to establish distinct associations between the symptom or the sign and thing signified- between the derangement and the morbid condition. Every symptom that is observed, must be referred to that particular organ by whose lesion it would be produced,

and its importance settled by a careful investigation of the nature and seat of the morbid action upon which such lesion is dependent. Due attention must at the same time be given to the various modifications that occur, as the increase, the diminution of symptoms, the departure of those first noted, and the succession of new ones, as well as the order of succession.

In the living patient all knowledge of disease of internal organs is dependent upon a proper interpretation of the symptoms which they present. We can never see disease itself we can only see its symptoms and the whole science of pathology consists in the right understanding of them. They are any changes perceptible to the senses in any organ or function which is connected with morbific influence. Hence they are to be observed in almost every thing immediately connected with the patient; the expression of his countenance, attitude, condition of surface, and of the nervous system and the performance of functions &c. The limits of this paper will necessarily confine me to generalizations. To particularize diseases therefore more than is sufficient for illustration will not be expected.

The first object which strikes the attention of the physician on approaching his patient, is the expression of the countenance. This has been not inaptly called the physiognomy of disease. In many instances it affords at once important indications of the nature and seat of the disease. Independent of the changes of color resulting from the deranged functions

of the digestive and biliary organs or the peculiar condition of the cappillary circulation, as local congestion &c there is in almost every form of disease an expression of countenance peculiar to it, which is at once recognized by the observeant and experienced physician. This is a branch of medical skill which it becomes every new fledged doctor to study. And no opportunity should be neglected to familiarize himself with this, help to diagnosis.

Its importance was well understood so long ago as the times of Hippocrates and Celsus. The latter author observes. "Medicus neque in tenebris, neque a capite agri debet residere; sed illustri loco adversus eum; ut omnes notas, ex vultu quoque cubantis perspiciat" Lib III. cap 6.

I will briefly mention some of the more prominent Symptoms which appear in the face. An unnaturally flushed countenance indicates febrile or inflammatory action – a circumscribed spot upon the cheek denotes hectic. Paleness of the face, and general surface may be the result of loss of blood, it is also present during chills. nausea and syncope. In chlorosis and anasarca this paleness is combined with a peculiar waxen appearance. Imperfect arterialization of the blood gives to the countenance a livid, leaden aspect. This is produced also by venous congestions. It occurs in organic diseases of the heart in Pneumonia Asphyxia and Apoplexy.

Eruptions on the skin indicate by their color and form the class to which they belong. The skin is usually hot in paroxysms of fever, and acute diseases, but in many chronic diseases in debilitated conditions, and in syncope it is cold. Excessive sweating is a symptom of weakness; it usualy succeeds a paroxysm of intermittent fever, and attends hectic fever. Cold clammy sweats denote the moribund state. Chills and rigors mark the progress of certain important changes in inflammation, as suppuration and the invasion of new tissues. they frequently attend the beginning of diseases or their paroxysms.

The study of the attitude of patients is worthy of much attention The natural position of repose is upon the side with the limbs gently flexed. Variations from this not purposely assumed are symptomatic. The dorsal decubitus is indicative of muscular debility. Extreme dyspnea forces the patient to assume the erect position. Any position carefully taken and retained is the effect commonly of acute inflammation. Convulsions are attendant upon poisons, hysteria, Epilepsy, constipation, hooping cough, and the puerperal state.

The symptoms which denote lesions of the brain and nervous system, are not in the present state of our science so definite in their indications as lesion of other parts. They are chiefly headach

Mental derangement - Wakefulness - Palsy - Spasm & Coma. Many of these however if only of short duration would indicate only functional disorder, but if of long continuance would imply structural alteration. But after structural lesion is declared, it still remains a difficult and in many cases an impossible problem to define its exact nature and locality. For instance from Andral's Clinique it appears that paralysis may result from hemorrhage of the brain from atrophy - cancer - congestion or softening of that viscus, and also from meningitis and cerebral disease. But still there are many symptoms belonging to the nervous system, which are so well understood that their indications may be relied on as general rules, to which there are few exceptions. Thus in paraplegia we may suspect disease or injury of the spinal cord. If there is palsy confined to any small portion of the body we may reasonably attribute it to disease of the nerves supplying that part. If the sensibility of the patient is impaired, it is the posterior roots of the nerves that are affected, and the anterior roots if his power of motion is diminished or taken away. There is much reason to hope that more extended investigation and accurate research will yet bring to light new and more positive means of diagnosis in this department.

Other symptoms of disease are derived from altered functions of

the respiratory - the circulating - the digestive and the urinary systems. The respiratory and circulating systems are so intimately connected that much information is gained by studying them in reference to each other, as in Pneumonia. Their abnormal conditions may be observed in increased or diminished action both in regard to intensity and rapidity and in alterations from the proper relative action existing between them. The study of the signs belonging to these functions also includes percussion and auscultation. All the functional derangements of these and other systems are too numerous to obtain special notice in a paper of this kind. I pass them over then with the remark, that in every acute disease the functions generally are more or less interrupted and altered and the particular description of those changes belongs rather to an extended work on pathology than to this article.

Remedies. We come now to consider the effects of remedies as a source of diagnosis. The most important perhaps is bloodletting. It is from the tolerance or intolerance of loss of blood in any given case that we derive aid in diagnosis. To illustrate, suppose a patient to complain of severe pain in the abdomen which is suspected to be inflammatory; if syncope is produced by the abstraction of a very small quantity of blood, it is certain the disease is not inflammatory, or if so must be treated by other means

than depletion. But the converse of this rule it should be remembered is liable to exceptions. There are occasionally found thin bloodless patients from whom by some peculiarity of constitution a great amount of blood may be abstracted without fainting though not without danger.

But there is another point of view in which bloodletting is diagnostic; when its effect is to relieve temporarily a single symptom, but which in a short time reappears in an aggravated form. This may be often seen in Chlorosis where the nervous head ache, and the hysterical pains in the left side, and under the left breast are mistaken for inflammatory action, and where the unwary practitioner, still further deceived by the frequency of the pulse is induced to open a vein, sometimes with almost fatal consequences; always increasing the morbid sensibility and the vascular irritability even where it may not hasten a fatal termination. In this as in some other diseases it should be remembered that the most acute pain is owing to a pathological condition directly the reverse of inflammatory, and that however frequent the pulse, it is no indication of bloodletting.

From these few remarks it will be seen that venasection, although not diagnostic until it is performed for good or for evil, yet then it is useful as confirming or otherwise the diagnosis already supposed. The same kind

of aid in diagnosis is to be derived from the administration of many other remedies such as digitalis, antimony, mercury &c. It is not my purpose to illustrate each of these fully, but merely to remark the general principle that where a given set of symptoms constituting a disease has uniformly been relieved by a certain remedy, if on another occasion in supposed similar circumstances exactly, the administration of the same remedy is not followed by relief a second examination of the symptoms will probably reveal that there is some one symptom modifying the case, not before detected or that the whole chain of symptoms had been entirely misinterpreted and the diagnosis consequently wrong. Again where the diagnosis is obscure or the symptoms are equally indicative of two diseases, as for instance Secondary syphilis and some other affection, if the administration of the Bichloride of Mercury which is considered a specific for syphilis is followed by restoration to health, the remedy may be considered as diagnostic or at least as confirmatory. A more familiar illustration is, where headache, vertigo, heaviness &c. are removed by an emetic, the cause of the trouble may be fairly inferred to be in the digestive organs.

Morbid Anatomy Morbid Anatomy is the next and last source of Diagnosis which claims our attention. Our immediate patient it is true can only derive advantage from such knowledge as is to be obtained from the history and Symptoms which his complaint presents. But the history and symptoms are not the disease. They are only the story which tells us there is disease. Symptoms are but the expression of the disease - the disordered functions - disordered

by the morbid action or the organic lesion which is the real disease and which it is our object to ascertain and cure. Now the same combination of symptoms are always indicative of the same organic lesion, and vice versa the same organic lesion always produces the same symptoms – Consequently if the connection of cause and effect can be established between any given symptoms and the disease we have but to see the one to know exactly the other. As the expert geometrician from knowing three parts of a triangle can determine the other three. It is at once inferred from this view that the same remark is true of morbid anatomy that was made of symptoms, namely, that their whole value consists in their true and correct association. Post mortem dissections if considered abstractly are entirely worthless. They can be employed only as confirmations or correctives of clinical opinions. And in this way if made with caution, judgement and accuracy they tend more than any other species of investigation to the advancement and exactness of the medical science, and will if pursued with that zeal and enthusiasm with which it has of late years been prosecuted by the profession exalt it to a far higher degree of perfection than it has yet attained, and will prove the most efficient means of casting off the reproach of vacillation and doubt which clings however unjustly to the science of pathology. But the utmost caution is essential to the successful prosecution of these investigations. No fact should be considered established until it has been confirmed by numerous and repeated observations. Because the intermediate ~~effect~~ steps between cause and effect are often obscure, or entirely untraceable, and in complicated disease where many parts are attacked, and consequently many symptoms are existing there is great liability to confusion in

tracing each symptom to its own source. Besides symptoms are numerous complicated varying, and often transient, while the organic lesion as disclosed at the autopsy is a visible tangible fact. Nothing but the exercise of skillful observation and patient investigation can determine which of the symptoms appearing during life are to be considered as indicating the organic lesion which is found after death, and which are merely accidental. Again, many symptoms depend upon functional derangement altogether, and the scalpel of the pathologist reveals no structural change to account for them. Thus in Colic there may be no organic trouble; but the disease consists not in the cognizable symptom of pain but in the irregular and spasmodic performance of an internal function.

Thus have I briefly and imperfectly presented some of the leading principles of diagnosis. And I was led to the consideration of this subject from the conviction that there is nothing that so much distinguishes the truly well qualified Physician from the mere routinist, as the ability to diagnose with accuracy and confidence the cause, nature, and seat of disease. Such ability is only to be acquired by patient, well directed observation. It is upon a foundation of facts, not of theories, that the superstructure of Medical Science must stand. It is to the observation of facts that the moderns owe their superiority in every science to the ancients, and not in any degree to more logical reasoning or greater acumen. For while the high wrought speculations which have in succession ruled the world have crumbled away with the dust of their originators, the facts recorded two centuries before the Christian era, still recur in the daily walks of our profession precisely as the Father of Medicine inscribed them upon his tablets. The world-renowned theories of Galen, Paracelsus, Van Helmont & Sylvius are now only rescued from

the Lethean stream by the curious and the antiquarian. No other destiny awaits those hypotheses which have more recently arisen and flourished. Brownism & Tullyism – Broussaisism and Hahnemannism with all the other isms alike distinguished for luxuriant fancy and poverty of facts, must descend the inevitable slope of oblivion; but the vast collections of truths established by the observation of nature are as immutable as herself.

C. S. Pinckney

Anaesthetics

By the term anaesthetics, is meant, those agents which produce insensibility either partial or entire. There are several agents belonging to this class. The principal ones of which are. Chloroform, Sulphuric Ether. Dutch Liquid or Chloride of Olefiant Gas. Common Coal Gas Bromform. Nitrous Oxide. As the two last mentioned, used chiefly as anaesthetics. I shall confine what I have to say to them, and more particularly to Chloroform. Although the other agents above mentioned, have been experimented with, and found to possess powerful anaesthetic properties, they have not been used to any great extent The Dutch liquid in general properties, much resembles chloroform. One writer remarks that a comparison of experiments with chloroform, & the Chloride of olefiant gas, will show, that in no one respect is the former, in the least superior to the latter, Coal gas has also powerful anaesthetic properties. And experiments go to show that it is safe and manageable

It is less irritating than chloroform, it does not excite cough, nor is there any repugnance to the inhalation of it. Bromform. This fluid acts as an agreable anaesthetic. without producing any irritation, whatever, but as it is not an article of easy production, and possessing no superior advantages, it probably will not come into extensive use, Experiments have been made with the nitrous oxide, but its effects are so exciting to allow of its use to much extent as an anaesthetic I shall now proceed to speak more particularly of chloroform & Sulphuric Ether And most of what I have to say will refer to chloroform alone

The use of the ethers by inhalation is no new thing. As early as 1795 we find the inhalation of sulphuric ether recommended by Dr. Richard Pearson, and it has been used by different persons since that period. As to the question to whom belongs the honor of discovering the anaesthetic powers of the ethers as applied to operative surgery. I will not attempt

to decide. It seems to me that all have been anticipated in the idea by Sir Humphrey Davy, who says (in referring to some experiments upon himself with nitrous oxide) "in its attenuation operation, it appears capable of destroying entirely pain, and it may probably be used with advantage during surgical operations. Although this extract refers to nitrous oxide gas, yet the principle is precisely the same, as if either chloroform or sulphuric ether had been used. Mr Horace Wells also experimented with the nitrous oxide with regard to its use in surgery. Dr Jackson & Morton of Boston claim the honor of first introducing the use of sulphuric ether by inhalation into the practice of surgery.

Chloroform was discovered by Mr Samuel Guthrie of Sackets Harbour, N.Y. The first case that I met with, in which it was used by inhalation, is related by Prof. Ives (Silliman's Journal vol XXI for May 1832) The case was one of pulmonary disease, attended with general debility & difficult respiration

and was effectualy relieved. In March 1847. the action of the vapour chloroform, by inhalation, was tried on the lower animals by M. Flourens & its effects on the Spinal marrow described. In november of the same year. Doct Simpson of Edinburgh, after experimenting with a number of anæsthetic agents, in order to find a substitute for Ether, tried chloroform at the suggestion of Mr Waldo, & having found its effects favourable, brought it forward, as a new remedy for pain, by inhalation in surgery & midwifery

The first question to be decided when any new discovery is brought forward is, is it of any practicable benefit to the receiver, or is that benefit to be counterbalanced by attendent evils of such a magnitude, as to authorize its rejection. Certainly With regard to this discovery, this for a time was no easy matter, there being such a discrepancy of opinion among Medical

men in regard to its modus operandi. its effects so entirely diferent upon different subjects. producing different effects upon the same subject at different times. I say with the many difficulties to encounter, it was a difficult matter to decide, whether chloroform could be used as an anasthetic agent, with any practicable benefit, to alleviate the sufferings of the human race. But time observation & experience, have demonstrated and it is not, that the practitioner of Medicine, has an agent at his command. whose power, & practicable utility, in his attempts to heal & restore, the diseases & deformities of his fellow men is of incalculable importance

The question may no properly arise what is the modus operandi of chloroform used as an anæsthetic. It is evident that the vapor being brought in direct contact with the blood, by inhalation, must with it be carried through the circulation. & in this

way be brought in direct contact with the heart, brain & nervous centers. Some contend that when death results from its use, it is caused by congestion of the brain; others, that by being brought in direct contact with the brain, it paralyses the nerves of respiration, thereby causing death; others still claim that its effects are closely allied to Hydrocyanic acid, causing death by paralysing the heart's action. That the first visible effects are upon the Brain, is evident, & the question, whether there is any danger of producing congestion of that organ, I will not attempt to decide, though I think facts are against the doctrine. One case is on record, where a patient was kept under its influence for thirteen hours consecutively. If its tendency is to produce congestion it seems to me, it would have been manifest in this instance. I think the fatal results which would have accrued from its use, such being its tendency, would ere this, banished it entirely from the hands of the medical men-

No definite can be marked out when its positive effects are produced. It varies exceedingly in different subjects, Neither can any positive symptoms be marked out, as indicative of danger. The only sure guide, is the pulse, for in some it will sink to a very alarming degree, and yet the patient be in no immediate danger. For others it will maintain its natural standard through the whole period of its exhibition. Some writers on the subject say that its effects are accumulative in the system. For some this is apparent and in others it is not. This being a fact, should serve as a caution to those administering chloroform. It would be very desirable, if some definite symptoms, could be marked out, to enable us to tell precisely when the stage of sopor, is about to merge into that of danger coma. One writer remarks, that the action of the pupils, is the key to this knowledge, He say, chloroformization ought not to be continued, one instant, after the pupils previously contracted, have begun to dilate. If unconsciousness can be

secured by sopor. the inhalation should not be carried on, to produce coma. If complete muscular relaxation be sought for. as in hernia. to facilitate taxis. in dislocation to make reduction easy, and in tetanus, then it will be needful in general, to urge the patient from sopor into coma. but as soon as the muscular relaxation is secured the inhalation should cease

It is very important in the administration of chloroform. to have an article perfectly free from all impurities. I have no doubt that many of the accidents which have resulted from its use. could be traced. to this cause, It is very apt to contain alcohol and ether. But the most injurious impurities are the chlorinated pyrogenous oils, the vapour of which (according to Doct Gregory) if inspired or even smelt, causes. distressing sickness and head ache. These oils are detected. by the action of pure and strong sulphuric acid. Pure chloroform, when mixed with an equal volume of the acid. does not colour it but when contaminated with these oils, gives the

acid a colour, varying from yellow to reddish brown according to the amount of impurity present. For the presence of alcohol the following test has been recommended, drop into distilled water a small quantity of the chloroform. If pure it remains transparent at the bottom of the glass; but if it contain even a small proportion of alcohol, the globules acquire a milky appearance.

As to the mode of administration various methods have been recommended, and various machines invented called inhalers. But the most simple mode and the one I believe which is conceded by all at the present time to be the best, is, pouring the substance upon a sponge covered by a towel or napkin, and holding it over the mouth of the patient, taking care that a sufficient quantity of atmospheric air be admitted. It is the practice of the Surgeons of this place, to use a mixture of sulphuric ether and chloroform, four parts of the ether to one of chloroform. I think one cause of their prejudice against using chloroform alone has arose from the unpleasant effects arising from impurities

The next question which arises is, in what states or conditions of the system is it admissible or inadmissible. There are questions which are not nor never can be fully decided. When it is evident that there is organic disease either of the heart or lungs it is considered unsafe to administer it with the view of producing anesthesia. It may safely be said I think that chloroform is admissible in all case (where there is no organic disease of vital organs) till actual experiment proves to the contrary. Some persons who appear to be good subjects for the administration of chloroform, at certain times cannot be brought under its influence without apparently dangerous consequences ensuing. Yet it has not been shown, beyond a doubt that all persons cannot be brought under its influence without danger. The fact that you have tried, to day to administer chloroform, to a patient & did not succeed does not prove beyond a doubt that you would not succeed tomorrow. I believe that the susceptibility of the system to these agents is different at different times

We are now made to enquire what are some of the advantages to be derived from the administration of Chloroform in surgery. In answering this query I shall use the language of a distinguished writer upon the subject. He says. chloroform besides being useful in diminishing the shock of operations. and subsequent reaction. operates beneficially by rendering the after exhibition of opiates unnecessary. And further. the constitutional symptoms have been milder, and the cases have proceeded more satisfactorily. than after the operation in in which no means were taken. to prevent pain. In proof of this I will relate one case out of the many which might be stated. It is that of a man with fungus hematodes of the arm. who was so exhausted by repeated hemorrhages. that he was considered moribund. In the afternoon he made all his arrangements. as though. certain of death. But after awhile he expressed a whish to have the operation performed. Although the case appeared. to be utterly hopeless the surgeon (under whose care the man was) immediatly consented

to ~~ic~~erate. and stated that he should administer the chloroform, as from what he had witnessed of its sustaining power in some instances of extreme debility, he expected benefit from it in addition to protecting the patient from the shock of the operation. The ether having been inhaled, for about a minute, the arm was amputated, The patient did not feel pain until after the operation. and dressing had been quite completed, He continued to improve after the operation, & was quite well in a few weeks. The writer deems a further advantage to accrue, from the less need of rapidity, in operating from an opportunity being given of acting with great deliberation & exposure; and from the composure of the patient. In children these several advantages of anaesthetics become still more prominent. There is a condition in which the surgeon would naturally be extremly cautious in giving chloroform, until experience had fully proved that they might be employed with safety. This condition is, shock from an injury When this state is excessive and sensibility is consequently annihilated, a prudent surgeon, would not venture

to give chloroform; nor would it be needed. But when patients have recovered from the first effects of the shock, and though the heart acts feebly, there is sufficient power to admit if necessary of operative proceedings. In such cases chloroform exerts a benificial effect, acting as a stimulant, saving the hurtful effects of a second shock, inducing a healthy reaction, ~~caution~~ and altogether placing the patient in a more favourable state for recovery, than when such means have not been resorted to. Lastly. When operations are needed in persons reduced by previous illness, or exhausting discharges, Chloroform has helped to buoy up the patient during the operation, and had an obliterating effect upon the powers of life afterwards. But in such cases it must be borne in mind that their effects are readily and quickly developed; and caution must be observed in their administration

But not to Surgery alone are we to look for all of the benificial effects of the anasthetics. From the testimony of eminent Medical men upon the subject we are led to believe, that in the practice of obstetrics, the

accoucher has powerful auxiliary. which in the hands of the carful and judicious. will prove itself to be of no small consequence. I think the anæsthetics have had sufficient time to be tested amply in obstetrical practice. and that the results thus far will justify, us in saying that the amount of danger incurred. by their administration is so small. as not to forbid their use when likely to be therapeutically useful. In speaking of chloroform in particular our writer remarks. I administer it in the following classes of cases. In irregular but natural labour. In operative labour. And To facilitate operations upon the uterus In natural labour, the pains are sometimes partially arrested, diminished. or rendered irregular and insufficient. by fear. impatience, want of self control, or by long continued suffering. In such cases the writer remarks. chloroform generally exercises in all but magical effect. Under its influence, all nervous excitement is soothed. the pains gradually become more regular, powerful and efficient. and the labour progresses normally. And may we not expect also that it may be beneficial

in another respect. In the cases above alluded to there is very often a disordered state of the capillaries. I see no reason why we may not expect great benefit to accrue from the sedative effect of the chloroform, thereby lessening the danger of convulsions occuring In cases like the above, I should not deem it necessary to push the remedy to the extent of producing total unconsciousness so as to annihilate pain entirly, but merely to allay irritability and sensibility, In operative midwifery the only cases in which I should deem its exhibition justifiable, are turning and retained placenta. In these cases, the chief benefit to be expected is in rendering the patient unconscious of pain, and by slightly relaxing, the rigidly contracted uterus In uterine examinations, and operations, in cases where there is acute neuralgic sensibility, of the uterus, its neck, and even the vagina, the use of chloroform might be desirable. Of the many cases on record of the benefits derived from the use of chloroform, in this class of cases, I will mention only one. A maried lady, for four years, had been been

a martyr to neuralgia of the most intense and agoni
zing description. The neuralgic affection occupied
principally the branches of the fifth pair. the nerves
of the uterus, and occasionally, those of other parts
of the body, and evidently been communicated. all along
with, extensive ulceration disease of the cervix
uteri. The entire pharmacopeia had been ransacked
and the most powerful sedatives had been admin
istered for years without any favourable result. A
careful digital examination of the uterus having
brought on a frightful neuralgic attack which
lasted a fortnight. It was determined by the prac—
tioner to put her under the influence of chloroform
He was thus able to bring to light a very extensive
ulceration of the cervix. This organ was lacerated
and the seat of great inflamatory enlargement
The chloroform was administered to the full
surgical extent for fourteen consecutive weeks
(that is fourteen times, to the evident benefit
of the patient. the disease being all but cured
and the morbid sensitiveness fast disappearing
The write says she will evidently get quite well

both of the local disease and of the neuralgia which it occasioned. In uterine pain from dysmenorhea chloroform has been found useful. Administered at bed time, it will often insure freedom from pain and a nights rest when every thing else fails.
In diseases of the nervous system. Neuralgia. Gin Dolereux. Tetanus. Delirium Tremens. Convulsions. In all of these diseases, chloroform has been administered with the happiest results. In the convulsions of childeren. I think the Physician has a powerful auxilliary in chloroform, and one which ought never to be neglected when other means fail

John S Moody

Inflammation

Of all the ills the flesh is heir to, and for which physicians are called to prescribe, Inflammation, either as a cause or an effect, holds a conspicuous place as an effect we find it produced by a multiplicity of circumstances, as a cause it is active in producing or forming a part of the essential phenomena of a majority of those aberrations from natural and healthy action which we denominate disease, it is naturally divided into Chronic and acute, the essential difference between which forms consists in the duration, and severity of the symptoms developed in their progress, and in the nature of the exciting cause,

Acute Inflammation— as in most other affections we are under the necessity in giving a description of them, to enumerate a variety of symptoms and physical signs, no one of which is certainly diagnostic but as a whole, the individuals of which, are liable to be modified and changed in their relation to each other by various and extraneous causes, yet without altering

the general character of the disease, as Acute Inflammation
we say it characterized 1st by an increased or excited
state of the circulation 2nd Redness, 3d by Immersection
4th An increased or elevated temperature of the part
5th Pain, 6th An increase of the pain by pressure
of these symptoms some are invariably present in all
cases of acute inflammation, but this disease is not one
entity, immutable and unchangeable, but puts on
various forms according according to the nature and
application of its causes, as also the vital energy and
resources of the organism against which their forces
are directed, the principal varieties, distinguished by
prominent differences we will consider under the names
of Phlegmonous & Erysipelatous Inflammation
always remembering that names are necessarily arbitrary
to a certain extent, and particularly so in the
pathology of diseased action; again dividing
Phlegmonous into Lymphatic and Parenchymatous
Inflammations. Increased Heat, though one of the
most constant of the physical signs of inflammation
is yet sometimes absent, yet there is usually a
sensation of heat, even when there is no actual

elevation of temperature, owing to a morbid and functional change in the nerves of sensation, by which they are rendered more sensible to the application of even the natural stimuli, air, heat, light &c the temperature as indicated by the thermometer is rarely above 100° Fahrenheit, Redness, also is a very constant symptom of Acute Sanguineous Inflammation caused by the admission of red blood into those capillary vessels which are accustomed to transmit only colorless fluids, also by an increase in quantity or unusual consequent distension of its appropriate channels by it, it must be borne in mind however, that this appearance can rarely be depended upon when discovered "post mortem" for it is more frequently produced "in extremis mortis" than is readily conceived or than some pathologists are willing to admit, knowing as they do that to admit it were to strike a death blow to their highly wrought and ingeniously contrived hypothyses, neither is it difficult to account for this fact when we consider how tenacious of life and action the muscular structure of the heart is, as compared with other

parts of the body, and especially the capillaries which are thrown into rapid contraction and spasm or spasmodic relaxation, by startling and frequently occurring circumstances which is more probable than to find the blood exercising so at does unwillingly to the power of death, stranded with its last efforts power some of its contents into the already constricted capillaries.

But however unsatisfactory this appearance may be in "post mortem" examinations as a diagnostic point of view, in the living subject, we can rely on it with as much certainty as any other, congestion, is to a certain extent a necessary consequence of the last named symptom, and is an effusion of serum into the cellular tissue, differing in degree according to the firmness and soundness of cellular tissue of the part, in which it occurs, Œdema, is generally present differing in degree according to the severity of the attack and the structure of the part; inflammation of the lungs, of the mucous membrane of the stomach and bowels, of the substance of the brain & of the pericardium has been known to terminate in death entirely unattended with fever. An increased or excited state of the circulation,

more generally in this form of inflammation
the momentum of the circulation is increased
but in some cases the deviation from healthy action
amounts only to an excitation and convulsive irritation
without any increase in quantity of the blood carried
to the part, and that there exists a wide difference
between irritated and increased action admits of
conclusive proof, irritated action is the effect of causes
acting upon a part whose vital powers are in a
morbid condition, increased action is the effect of
causes acting upon a part in a state of organic
and functional health, and is consistent with the
perfect health of those organisms as of the animal
economy as a whole, which is not the case with
irritated action, Pyrexia of the form by fever
is a symptom of importance in a diagnostic point
of view and very constant in acute and generally
present in other forms of inflammation

Phlegmonous & Expostulations inflammations demand
a separate attention both on account of their differing
so widely in their symptoms & phenomena and on
account of their requiring an entirely different mode
of treatment; Phlegmonous inflammation is described as

by the action of irritating causes upon parts in a state of comparative health, and possessing a good degree of power to resist morbific impressions; and consequently, so much more susceptible of being brought to a favorable termination than the Erysipelatous variety, the conservative energies of nature responding more readily to the use of remedial measures, and more prone to recover themselves when exciting causes are removed, it is more common in young and plethoric subjects, than in the debilitated or the aged. The Erysipelatous form is distinguished by a darker and more livid hue of the parts concerned disappearing for a time on pressure, with heat and pain more of the burning and stinging and less of the throbbing and throbbing character, also by less termination, by its being less circumscribed the limits of diseased surrounded by healthy parts less definite the circulation taking on more of the irritated and less of the increased action,

Suppurative inflammation is of comparatively rare occurrence, and always I believe takes the form of Phlegmonous inflammation, and generally attributable to one and the same exciting cause

to not obstruction to the course of this fluid via its appropriate channels which obstruction may be either mechanical or the result of structural disorder it has indeed been denied that there was any such thing as a lymphatic inflammation but I think without good grounds, a possible example of this disease is Phlegmasia Dolens, and a strongly marked one it is true, it is characterised by the same symptoms as acute sanguineous inflammation with the exception of redness which is entirely absent, and there is in variety of hard ridges and little nodosities, perceptible to the touch but not to the sight, this state of things being produced by the distended lymphatic vessels and glands being more numerous in some places than in others, Chronic inflammation differs from acute in following a more protracted course, in the symptoms being less severe, and in the nature of the exciting cause which must as a necessary consequence be continually acting, either in person or by some agent produced by it in its turn, as in inflammation of some secreting organ causing functional derangement and morbid secretions which latter act the part of the exciting cause and continue the disease as in Arsenic

as acute, inflammation is more common in the more vascular tissues as chronic inflammation of tissues occurs in the fibrous tissues such as that of the valves of the heart, the investments of the lung cells, all the membranes within the cavity of the abdomen, the serious membranes of the urinary canal are especially liable to become the seat of chronic inflammation, this form is also called [illegible] ... existing in the [illegible], and ... the more active and the greater the constitution of the exciting cause, and the more active the constitution, the greater the chances of the acute termination, as in the acute, and the tendency of the acute to degenerate into the chronic form.

Causes of Inflammation, ... we may divide the exciting causes into local and sympathetic, the former are those irritating impressions which act directly on the nerves and tissues of the part, causing Kindred lesion or functional derangement. The nervous irritation and excitement calling on increased sensibility of blood to the part

The sympathetic causes are those power to the part of the general nervous communication of the different members of the animal economy, whereby one part being affected sympathizes or has the power of sympathizing the general impression to those other organisms with which it has a connection by which act it mechanically relieves itself of a part of the burden it feels itself unable to bear;

The predisposing causes are all those agents and circumstances which tend to weaken and debilitate the system generally, thereby lessening the animal & vital resistance To these causes [illegible] calculated to produce that state of parts which we denominate inflammation, it must be kind however that all these causes tend to produce sympathetic inflammation the mind in state of perfect health the general system is the more likely will these exciting causes before mentioned be to produce Phlegmonous inflammation therefore thereby Necessary it is, no exciting cause the reader Specific of sympathy is an irritating stimuli, the irritating impressions (conveying ideas to mental relations; are transmitted through the medium of the nervous communication to other parts and thereby

capable, if I may be allowed the expression, of perceiving the impression thus conveyed. All impressions made upon any part of the system whether morbific or healthful are conveyed directly to the sensorium commune, upon whence they are reflected throughout the nervous system, yet are perceived and in consequence effect produced only in those structures or organs which have a particular adaptation or power of perceiving impressions of a like nature. Thus Lobelia Inflata has a specific tendency to produce vomiting when introduced into the stomach, but if applied to a distant surface will frequently produce its specific effect on the stomach, now in this case the impression was carried to the brain, and reflected upon the whole system, but produced no effect alone on the stomach because the stomach alone in its peculiar modification of the life force, was capable of perceiving that impression what the character of that sensibility is which alone give to organs the power of discrimination in impression we can only say when we shall be able to demonstrate what is life! relying upon the definition given above of Phlegmonous Inflammation as compared with Erysipelatous we are able to say why wounds of a

certain character should produce an inflammation of the one kind in preference to the other. inasmuch as we know that an exciting cause acting upon a part capable of giving a good and healthy degree of vital resistance tends to produce the former and vice versa, we know also that all bruised and contused wounds will to a certain extent produce an hypothetic inflammation, because in all such wounds a greater or less amount of matter remains in which the connection between the living principle and the material organism is shattered but not entirely abrogated and consequently an antagonism will be established between the morbific cause and the vital energies which stand battling on their frame which must terminate in one of three ways, either nature expels and maintains her supremacy, and restores the natural actions, or the constitution by giving up the constituted parts, which are immediately sloughed off or resistance is maintained until the whole system is debilitated to that degree of impaired action which allows the disease to follow up its advantages until a surrender of the whole territory and the campaign is also in abeyance we should conclude "in pari"

Here the resulting inflammation would be Phlegmonous
in its character, for the reason that all those points which
have been acted upon to their injury have been removed
by the more cleaning ... [illegible] ... would
[illegible] condition which is only called for because
their restored covering has been removed. Every
time a wound is the invitation of the air and more
substances with which they come in contact
also in simple incised wounds there is no disturbance
between matter and its power, but simply a union of
continuity, therefore the resulting inflammation of such
wound in a healthy subject will certainly not be of the
Erysipelatous character, the cause of Erysipelas
differ from the cause in that being of its power under
longer continued application and spreading as it
do more generally upon the system at large, and for a
long time it is exceedingly difficult to trace them to
their exact working, of such is therefore are all
irritating and poisonous substances inhaled by the
lungs, miasms dust smoke, fumes of chemical
preparations &c. &c. also the continued use of irritating
and unwholesome articles of food, and the immoderate
use of spirituous liquors, and here it should be observed

these very different effects are produced in persons of different temperaments by the excessive use of alcoholic drinks, in persons of the sanguine temperament and its combination with the bilious, functional derangement predominates as evinced by a morbid change in the various secretions and especially so as regard to those organs whose office it is to renew and regenerate the blood, indeed in persons of this habit of body the sanguiferous system seems to be first affected injuriously by excessive potations, giving rise by its altered properties and sluggish movement through the brain to a torpid and insensible state of the nervous powers, and a predisposition to all those diseases in which the blood takes an active part on the contrary in persons of the nervous temperament there is often very little functional derangement, the disease depending chiefly almost entirely on the brain and its members, taking them these facts into consideration we should be led to conclude, and this conclusion is verified by experience and observation that the last named class would be particularly subservient to the higher and more refining forms of "insanity potior" while in the former we find the strongest and most easily developed predispositions to inflammations

which are more likely to assume the Erysipelatous form from the fact that the predisposing cause has been of long continued asthenic action gradually weakening the powers of life until a healthy reaction to the excitant cause cannot be established Pathology — — — — —
In the next I would say that my own conviction is that all Phlegmonous Inflammations are physiological conditions rather than morbid are necessary and reparative in their results and should be so considered in their treatment, the fundamental principle of, which should be (as indeed in all other diseases) the guiding star to every physician, let nature be the artist the doctor the assistant, or in other words no other treatment is necessary in the form of inflammation under consideration than that which should insure that the vital reaction shall neither fall short of nor exceed a healthy degree, in proof of the position taken we will glance at the treatment which has universally found favor with and been successful in the hands of physicians in other, and varient Countries all irregular forms of inflammation for example in Chronic rheumatism what but stimulants and irritants have been found most

miscible & which articles as all must admit have
a direct tendency to produce Phlegmonous Inflammation
on healthy constitutions, it may be objected that in
some forms of Chronic Rheumatism mercurics and
mercuries have been used to most advantage
in answer I would say that all these cases are
of the shifting and Chronic remedyic character
and therefore are not entitled to the name of rheumatism
if defining rheumatism to be one inflammation
of the fibrous tissues, at all events a disease which is
capable of changing its place from one part to
another throughout the whole body and during a
stage of its progress is essentially different from one
which is strictly local and incapable of changing
its place, why is it that Nitrate of Silver will at once
check and stop the progress of erysipelas when commenced
and radiating from a single point? so we might
go throughout the catalogue indiscriminately of remedies used
in these forms of inflammation and find them
without exception to be such as have a tendency to
produce Phlegmonous inflammation, what more
rational conclusion can we draw from these facts
than that these articles produce beneficial results by

substituting or arousing a healthy reaction in place of the one already existing, or as in the case of others not mentioned the antiphlogistics for instance, by depressing an excessive reaction to the point of curative effort on the part of the vital powers! Electic unhesitatingly notices this fact in Theory & Practice of Medicine, in speaking of the use of peruvian bark in intermittents and noticing the accusation brought against its use that it is apt to produce visceral inflamations and other unpleasant symptoms says, when given for intermittent in cases attended with strong marks of an inflammatory condition of the system, without proper antiphlogistic preliminary measures, we can readily conceive that the bark would favor the the natural tendency of such cases to terminate in there disorders in this respect however he says the bark does not differ from other tonic and stimulating remedies, for it is not by any thing peculiar in the bark that these effects are produced but by the power it possesses in common with the majority of febrifuge remedies of favoring the phlogistic diathesis and the paroxysm of these inflammations, now this is a very candid avowal and directly in point

that all remedies which exert a curative influence in febrile diseases, do so by bringing the system to a proper point to develop a healthy reaction to the causes which call for it, and after that point is reached the case is entirely out of and beyond the reach of medicine, and can be safely and should be left entirely to the efforts of nature without interference

Treatment, the treatment of all diseases is governed by our knowledge or opinions in regard to their pathology, therefore as might be expected from my views of its pathology the treatment which I should advise in inflammation will be in all cases such as tends to the production of the form of inflammation called Phlegmonous, in connection with those cases in which the reaction is excessive we may know that death is the case unless the pulse is brought down quick, hard and frequent or very small incompressible, thrust upright, tongue coated white or bluish grey, and usually diffused discolouration varying through which can be seen the scarlet red or dark grumous appearance peculiar to that organ, all the secretions scanty, the extremities often cold and but more commonly warm, restless and delirious the mind first but soon becoming high colored.

and depositing a deleterious sediment, and the vessels invisibly weak, attended with pain and irritation, the surface hot and dry and more or less flushed with the bright hue of arterial blood, when all or most of these symptoms are present it is certain that the case requires the antiphlogistic treatment, carried to the extent of overcoming the symptoms viz venesection antimony, refrigerent cathartics, free use of cool and acidulated drinks, the application of water to the surface, the temperature being regulated entirely and exactly by the feelings of the patient, who should be kept as quiet, and as much removed from all irritating and disturbing circumstances as possible, these remarks are made in reference to those inflammatory affections which affect the whole system, but are applicable to those of a local character subject to some exceptions which I will not enumerate but merely give an example, an inflammation of the liver attended with congestion it is evident that it would be highly improper to apply cold to the surface of the body, which would tend powerfully to increase the congestion, by driving the blood from the surface and giving it a centripetal direction inside upon the internal organs whose actions are essential

to life. The principles of treatment in those inflammatory
affections in which the reaction is deficient and
imperfect are not those simple, mere is the application
of a mode of treatment which is certainly indicated
as commonly or certainly followed by a favorable termination
for we have to deal with constitutions in which the
conservative power of the vital forces is in all degrees of
impairment, but it is necessary in the first place to
determine in what cases the reaction is imperfect, which
may usually be done without much difficulty by a
careful recapitulation of the symptoms, the pulse is
always soft, commonly small and quick, yet often
full and slow, the heat if it be above natural is of that
character called "calor mordax" the secretions usually
retained in quantity but changed in quality
the retained dark colored and highly offensive except
only in the disease when they are commonly pale
& deficient, the urine often depositing a
milky or flocculent sediment, and becoming putrid
very speedily, the surface dark and showing often a
mottled appearance, the nervous power prominently
affected, evinced sometimes by high delirium but
more commonly by a more or less comatose state

a diminution, in both mental and corporeal
exercise. Individuals are of the most active, energetic
spirited, even in their forms of disease, among whom
the diagnosis at times becomes a matter of great moment
the treatment should be, as I am decidedly inclined
to general principles, I would briefly say that it should
be such as will have a tendency to increase the vital
action and energy of the organ or organs which are
suffering from the operation of the cause whatever the
nature of that cause may be, if the circulation system
is the one prominently affected, then tonics are
indicated, if the circulating system is the one performing
its functions languidly and imperfectly, you will find
stimulants, if the nervous system is disordered and
affected in its actions by the direct operation of the
morbific cause then will narcotics and nervines
tend to facilitate the cure and alleviate the sufferings
of the patient, or if the brain is affected by the languid
state of the circulation, or the debility and distension
of its vessels, an erect posture, small bleedings and the
empirical use of tonics and internal stimulants [illegible] by
most advantage must be administered confidently
and perseveringly

George B Parsons

[illegible]

[illegible] into a very minute description of the different kinds: And I will dismiss this [illegible]

[illegible] case will allow.

First let us take a view of the Ascarus Lumb- [illegible]

to the common earth worm. Its length is from [illegible]

very minute. It is of a pale brown color, which differs however with the nature of the food taken by the patient. The females are larger & more numerous than the males.

[illegible] can be distinctly seen by means of [illegible]

They may be distinguished from the earth [illegible]

pointed at their extremities. They are also more pale in color, & there is a difference in the form & position of the mouth & anus.

[illegible] which is surrounded by three tubercles

mouth [illegible] extremity [illegible]

...anus is a transverse slit near under
the end of the tail. While the earth worm has
...
These worms are found for the most part in the
small intestines; but are sometimes met
with in ... stomach, ...
Sometimes they crawl even into the oesophagus &
pharynx causing strangulation even in some
instances. Their numbers in a single
individual may vary from only one
hundred or more, as is proved by
the examinations.
... the ...
very rapidly; for instance I once recorded in a ...
300 or more ... avoided in a week.
I will now proceed to give some description of
the Ascaris Vermicularis, which Bremser
... called "Oxyuris". It is a small, round
white worm, ... the ...
use in this species being longer than ...
the anterior extremity is subulate; the lower
... Its ...
...

Scarlatina.

This disease which is now classed among the most fatal which afflict mankind was for a long time confounded with Measles; and they present so many points of resemblance that the essential points of difference were not recognized till within the last seventy years. But as they are essentially different not only in degree of danger, but in the treatment which they require, it is of the greatest importance to distinguish between them.

Statistics show that Measles is more peculiarly than Scarlatina a disease of childhood; for of 1293 death which occurred in London in 1842, 93.8 per cent occurred in children under 5 yrs. of age, & 99 per cent in those under the age of ten; while of 1224 deaths from Scarlet Fever 31 per cent occurred after five and 10 per cent after 10 years of age. Measles too is a much more universally prevalent

disease but fortunately far less dangerous as its mortality is not estimated at more than 3 per cent of those attacked, whilst the mortality in Scarlatina exceeds double that amount.

The diagnosis of Scarlatina at the present day is not difficult, Measles being the only disease with which it is liable to be confounded. The symptoms which attend the onset of Measles do not differ essentially from those of ordinary Catarrh The Child is restless — complains of headache, thirst and is affected with general feverishness. The eyes become red and suffused accompanied with intolerance of light. The child is annoyed with a short, dry cough and sneezes frequently. On about the fourth day from the accession of these symptoms a rash usually of a scarlet-color makes its appearance, first upon the face gradually extending over the body to the extremities. This rash is made up of a

great number of small papulae of a deep red color not unlike flea bites, and except in the confluent form distinct from each other leaving the interspaces of skin of the natural color. The redness of Scarlatina commences in minute points on the face & neck and extending gradually over the whole body becomes so numerous and crowded that the skin universally presents a red appearance having the tint of a boiled lobster.
On this disease the rash usually appears on the second day of the attack.
The rash in Measles is more elevated than the rash in Scarlatina & of a darker color. Sometimes the surface is thickly studded with transparent vesicles containing a colorless fluid which is afterwards absorbed leaving a white scurf upon the surface These vesicles occur most frequently about the neck & chest. The rash in favorable cases begins to fade in 3 or 4 days disappearing entirely before the end of the seventh day

when desquamation takes place.
For convenience of description and treatment most writers divide Scarlatina into three varieties viz Scarlatina Simplex. S. Anginosa & S. Maligna. In the first of these the patient is attacked with fever often of a very mild character and short duration accompanied with a bright scarlet rash over the whole surface and slight soreness of the throat. In the variety designated anginosa the fever is more severe & of longer duration and as the term implies attended with a severe throat affection. In the third & by far the most fatal variety the fever is of a typhoid character and sloughing of the inflamed tonsils usually occurs and a variety of complications are liable to supervene by which the patients danger is greatly aggravated.
Scarlatina Simplex. An attack of the simple form of the disease is ushered in with vomiting in many cases frequently repeated.

The skin is hot & dry — pulse accelerated — tongue covered with a white fur through which the papillae are frequently seen projecting There is often sensorial disturbance amounting sometimes to actual delirium. The eruption appears first on the face & neck extending thence over the whole body. The eruption is of a bright red color and composed of innumerable papillae which continues to deepen in color for three days. It sometimes appears in patches of irregular form and uncertain size. The fever does not usually abate with the appearance of the eruption but on the contrary often increases until the eruption reaches its acme & then slowly abates with its disappearance. At the same time with the subsidence of the rash the process of desquamation commences the uninterrupted performance of which is so essential to the complete recovery of a patient convalescent from Scarlet fever. This usually takes place in small scales especially on the face and trunk but sometimes from the feet and hands the cuticle peels off in large flakes

The duration of the disease is uncertain. In favorable cases it is sometimes over in six days whilst in others successive desquamations take place and the disease is protracted to 3 or 4 weeks. There is no assignable cause for these differences. In the simple form of the disease just considered there is ordinarily little danger; but the second variety Scarlatina anginosa both in its primary effects and in its sequels is a far more serious malady. The premonitory symptoms are generally much more severe and of longer duration. In this form the rash frequently does not show itself until the end of the second & sometimes not until the end of the third day. It is less generally diffused but appears in irregular patches distributed over different parts of the body especially the back. From the first soreness of the throat is experienced attended with difficult deglutition, stiffness of the neck, swelling of the submaxillary glands & difficulty & pain in moving the lower jaw. The throat is internally red and both tonsils red & swollen. The swelling of the tonsils increases rapidly until they

sometimes block up the entrance to the Pharynx rendering deglutition so difficult that fluids are often returned by the nose. Frequently patches of lymph collect on the tonsils & about the fauces appearing like superficial sloughs, but on their removal it is seldom that any breach of surface is discovered.

There is sometimes a troublesome Coryza and an adhesive yellowish matter is secreted which is so acrid that it excoriates the skin over which it passes & causing great suffering by the obstacle which it opposes to free respiration.

In some cases the inflammation extends to the parotid gland & the parts about the neck so that the lower jaw is opened with difficulty & posing the patient to danger from inability to take sufficient nourishment. The constitutional disturbance is very great. The skin is extremly hot. Pulse very frequent from an early period of the disease yet not small but cavity compressed. The tongue is covered with a dirty brown fur except the edges and tip which are red. Between the severer forms of Scarlatina

anginosa and that variety called Malignant very little difference exists except in degree. Many of the symptoms just enumerated are present but the fever assumes a typhoid grade very early in progress of the disease & death takes place earlier than the amount of local lesion suffices to explain; whilst in the anginose variety there always exists a direct proportion between the local mischief and the degree of constitutional disturbance. There is great depression of the vital powers from the first onset of the disease and to this its fatality is to be attributed rather than to the local affection. The inflammation of the tonsils terminates in the formation of unhealthy ulcerations and sometimes extensive sloughing involves the parts at the back of the throat. The glandular swellings rarely suppurate and if suppuration takes place it is usually in the cellular tissues about the gland & not in the gland itself. Of the sequelae of Scarlatina which are often more formidable

than the disease itself Space does not permit us to speak.

Treatment. The milder forms of this disease require but little interference. The child should be kept in a cool well ventilated chamber and kept on a spare diet. In the progress of the fever mild antiphlogistic medicines should be given & if there is much heat of skin the surface should be sponged with tepid or even cold water. Where the eruption is on the decline the warm bath every night will aid the process of desquamation. The child should be kept strictly within doors and his diet should be mild and unstimulating. Due attention should be paid to the state of the bowels until the period has passed when there is ground to fear the supervention of dropsy. For sometime after, much caution must be exercised in not allowing the child to go out in the cool air & in avoiding all errors in diet. Flannel should be worn next to the skin for a considerable period

after apparent convalescence. In the severer forms of the disease active measures should be hastily resorted to as a somewhat stormy onset is characteristic of all but the mildest forms of Scarlatina. Depletion is seldom necessary & should be resorted to with the greatest caution. The results of depletion in Scarlet-fever even in the adult are by no means encouraging and in children under these circumstances the loss of blood is ill borne, so that unless the patient be robust and plethoric & the evidences of inflammation or congestion very marked the practitioner should not resort to depletive measures, but be content with cold applications to the head with sponging of the surface and perhaps cold affusion.

In the malignant form of the disease there is usually considerable disturbance of the sensorium, great restlessness alternating with stupor, but the typhoid nature of the malady at once forbids depletion, and points out the

necessity of supporting the patient. If there is much soreness of the throat & the Physician doubts the propriety of general depletion, a few leeches may be applied to the angle of the jaw. In many cases it is necessary to support the patient with stimulants & tonics from the first. If the pulse is frequent and soft at the same time Ammonia is an excellent remedy & if tonics are required Salicine is one of the best. The throat should be carefully watched & if the tonsils are much swollen & the child is too young to gargle, slightly acidulated lotions should be injected into the throat to free it from the mucus which is apt to collect there & occasion great discomfort. Much benefit will also be derived from sponging the throat with a solution of Nitrat of Silver in the proportion of xj of the salt to Zj of water. This relieves greatly the soreness and frees the throat from the deposits of lymph which are usual in this disease.

The coryza which is so distressing a symptom is greatly relieved by throwing a solution of from gr j to gr ij of Nitrate of silver up the nostrils.

The different preparations of Chlorine have of late acquired much reputation as remedies in the severe throat-affections attending Scarlatina & no doubt justly. When there is a tendency to putrescency the Liquor Sodae Chlorinatae is said to have an excellent effect - applied locally and administered internally.

The malignant form requires all the stimulating and supporting treatment of typhoid fever which will too often prove useless.

For the throat-affection a strong solution of the Nitrate of Silver will be of service as a local application & the Chlorides with tonics & stimulants must be relied on as internal remedies.

W. H. Sillem

Carus Catalepsia

This disease has been most happily treated by Dr Good under the name of Carus Catalepsia — thus — total suspension of sensibility and voluntary motion — mostly of mental power — pulsation and respiration continuing — Muscles flexible — body yielding to and retaining any given impression — This Enumeration of the pathognomic symptoms of Catalepsy is about as successful as could be expected in so few words —

Catalepsia is derived from the Greek katalambano — to catch — on account of the denseness of seizure — is a disease of great Antiquity — which under different names has been more or less attended and described by the earliest writers — Jan Swieten pertinently compares a cataleptic paroxysm to the fabulous effects attributed to the head of Gradiva upon those who faced it — and indeed it would not be a very bold flight of the imagination to suppose this terrific allegory as having had its origin from the mysterious phenomena of Catalepsy —

This malady most commonly commences without any premonitory symptoms — but in consequence of some violent mental Emotion as anger terror — joy or grief — Sometimes

however — after feeling slight headache and showing various signs of mental and bodily torpor and indisposition — the patient is suddenly seized with total immobility of the muscles of voluntary motion — loss of sensibility and generally of the mental faculties — remaining precisely in the same condition he was in when first seized — countenance vacant and retaining the same expression characteristic of the accidental mental emotion at the time of the attack — limbs so perfectly flexible as to assume (and retain any) position however tiresome and uncouth that may be given them — the vital functions in the meantime — remaining not at all or but slightly impaired — Cases are extant of patients seized while talking and unconsciously continuing so as long as the Paroxysm lasted — After a duration varying from a few moments to two or three days — the Paroxysm ceases — the patient awakes as it were from sleep — with deep sighs — without the slightest recollection of the occurrence — sometimes continuing the very sentence left unfinished at the seizure — This is considered a Paroxysm of complete Catalepsy — when there is a total abolition of the power of motion as well as of the mental functions

But sometimes the mind is but modirately affected

some or all of the senses remain entire — the power of motion however is always altogether suspended so that although perfectly conscious of what is passing around him the patient is yet totally unable to speak or move — thus the connexion of the cerebral functions with the rest of the system appears to be for a time completely interrupted — but it is able nevertheless to recall after the paroxysm all that occurred — By repeated attacks however it may end in some more serious nervous affection such as Epilepsy mania melancholia — It is a disease of so rare occurrence as even to have been doubted by some Physiologists! & Pathologists —

Nearly all — indeed all diseases — not immediately the result of mechanical lesion infection or contagion — are produced by the united concurrence of those causes which we have enumerated — 1st the Prognominal or predisposing cause — that which may well be called the principle cause of the Disease — since without it no disease can exist — although it alone is unable to produce any disease — this is the cause that gives the specific character to the affection — thus it makes an epidemic assume the form of an Influenza — instead of cholera Cholera

Typhus Fever instead of Pneumonia - This cause is increasing as rapid as the number of specific diseases - 2d The Procatarctic or exciting cause is that which kindles the disease into action - and is always some one of the six non naturals of the Ancients - it has nothing to do with the nature of the affection - but only arouses the dormant disease predisposition that may be into action to which the system is predisposed since same irritability will result in different affections in persons differently predisposed - 3d or proximate cause is that upon which the phenomena of the disease immediately depends - for it is that state or condition of the system which constitutes the symptoms of the disease (and may with propriety be called the disease itself) With these principles in view I shall consider the causes of our malady - And first in regard to Prognominal cause the wisest and strongest of the Profession stand upon the same level - May enumerate a vast Catalogue of morbid agencies - and among the most foundation predisposition is a Prognominal cause - Real this only amounts to but little Perhaps it would not be safe for the regulation of practice is certain in Medicine to ascribe to the unlimited cause did confession of our ignorance or of practice is uncertain

and unknown — The true cause is yet involved — The Incoherent cause may be one or more of the many irregularities already spoken of — but most frequently violent mental excitement of any kind — In consideration of this proximate cause of Catalepsy involves at once the true nature and pathology of the disease — In the whole catalogue of diseases there is none so wonderful and almost supernatural as this — The unfortunate one is for a time totally deprived of animal life — It resumes the very position left unfinished at the decease — proving most clearly that all mental action has been suspended — I would not be seen assert that there has been a separation of soul and body — for nothing is known of this manner of connexion — whether it is the province of an Elemental — the Rational Soul of Stahl or any thing else — Let me it inhabits the Animal plane — stomach — heart — — these functions belong alone to the Lower — The soul we are taught is, that which constitutes ones Self — and is immortal — The Mind on the other hand is the result of the functions of the Encephalon — What are the Pathological conditions of Catalepsy, I — Some is evidently more or less important of the faculties of perception — consciousness — and voluntary motion

all depending upon the Encephalon and its appendages - These parts therefore serve to indicate the seat of the malady — But they are not in every case of Catalepsy equally affected - for the mind seems sometimes to be but slightly affected - the patient perceives things around him — he can will this or that - but the voluntary muscles obey not his call — the nerves are not wanting in power for they retain it sufficient to assume and retain any position relative they may be put into - Here then appears to be only an interruption of the nervous influence between the brain and its appendages — This may be illustrated by comparing the Encephalon and its appendages to a mountain spring supplying a lake below with its waters - Now press the spring - and the lake becomes stagnant - This may stand for a case of Complete Catalepsia If the course of the spring be only interrupted - the lake will likewise become stagnant - But that would be all — Each would respectively contain as much water tho' ~~the~~ prevented from running — This may stand for a case of imperfect Catalepsia - the passing of the lake - the spring remaining liquid would illustrate a case of Paralysis of the Extremities — The extremities of the Encephalon then do not

appear to be affected – for the nerves of voluntary motion – common and special sensation are in a healthy condition for anght that appears to me – only there is an obvious interruption in the transmission of nervous influence from the brain & its appendages – the Respiratory tract of Bell and the great Sympathetic upon which depend all the vital or organic functions are not at all or but slightly affected – Thus far we can raise the veil of the morbid phenomena of our malady – but behind the peculiar and precise condition of the nervous solids – is in this disease upon which depends the mysterious plasticity so preëminently characteristic of Catalepsie – must remain inscrutable to the Reading Art –

On the Treatment of Catalepsy we have to meet two indications – first to arouse the patient and interrupt the paroxysm – second to obviate the predisposition to a subsequent accession of the disease One would perhaps think, but to meet this first indication nervous stimuli would be best to awaken and bring impressions to the system – and for this purpose nothing would seem so applicable as Electricity and Galvanism but it has not given Experience and theory must ever yield to Experience but during the Paroxysm the less that is done for the patient the better – on the danger of convulsions is not As a general rule one should be very cautious in interrupting the paroxysm – he must not be fearful of the patients state – even if convulsions be present there is no great danger of life since the functions involved are not vital – and the

the disease lasts no great length of time - accordingly the latter is
said to spontaneous termination. Upon we must depend as nothing to
assist it - we must resort to mild measures - We may use friction
sinapisms and rubefacients to the renal parts stimulating aromatic
- moderate doses of camphor - alcohol or ether - if any thing can be intro-
duced into the stomach - Ammonia and other exciters to the nostrils
slight Galvanic shocks - music particularly if the patient be fond
of it - in short anything and everything the Physician may think pro-
per - for there is no remedy or process that has not been tried - with
more or less success -

The second indication - is in my own view the most
important - for in the intervals only can we hope to radically cure the
disease - In prescribing we should attend to the general condition of the
system - and to the particular irregularity that kindled the disease - such as disordered
digestive functions - sudden interruption of some of the natural or habitual discharges - some
violent mental excitement - to meet the second indication - we should have re-
course to tonics - Narcotics - alterations - out of these classes we should judicious-
ly select as occasion may require

W. J. Lonsdale

Miss Harris Sept 3rd 1851

Cinchona.

The Botany of Cinchona. Cinchona; a genus of the Vegetable Kingdom; of the monopetalous exogens, natural family Cinchonacea and genus Cinchona. It is classified, according to the Linnaan system, in the class Pentandria, order Monogynia. The plants belonging to this genus, are large and majestic trees, 30 or 40 feet high, or Shrubs 8 or 9 feet, growing between 22° S. lat. and 10° N. lat., thriving best in mountaineous regions. The general characters are: Calyx, five toothed. Corolla, hypocrateriform, with a five parted limb, valvate in aestivation. Anthers, linear, inserted within the tube and not projecting unless in a very slight degree. Seeds, girted by a membranous lacerated wing. (Lindley). The number of species is doubtful; Humboldt has 9, Ruiz & Pavon, 19, La Condamine 3. etc. It is to that distinguished South american botanist, José Celestino Mútis, whom Linnaus calls Phytologorum americanorum princeps, and of whose name he says: Nomen immortale quod nullas atas unquam delebit, and whose powerful mind not only mastered Botany and Astronomy but also other sciences, that we owe the knowledge of many species, discovered by himself, and the true geographical distribution of this interesting genus. His name will be handed

down to posterity, with all the glory that, by his works, he deserves. He was born the 6th of April 1732, and after a long, laborious and useful life, was called to enjoy the blessings of his Creator the 11th of September 1808.—— This genus is easily recognized by the botanist, especially, when to description, drawings are added. The organaleptic properties are better learned by practice, and even old apothecaries find it difficult to discriminate between different kinds of bark, so I will say nothing about them.

The Chemistry of Cinchona. After its introduction in Europe and after its astonishing curative properties were widely known, the investigation of its mode of action, on scientific principles, began. The inquiry was, at first, directed only to the action of water and alcohol upon it, and to estimate the ammount of gummy or extractive matter. It appears that the first chemist that made an analysis of it, was Fourcroy, who ascertained the existence of certain principles, besides those that came under the vague appellation of extractive. Dr. Westring attempted to discover the active principle, but was not successful. M. Deschamps, first obtained a distinct crystallizable salt of Lime, the acid of which, Vauquelin first isolated, and called it Quinic acid. It crystallizes in

rhombic prisms. Its formula is $C_{14}H_{10}O_{4}$,240. Some salts of this acid have been obtained, the quinate of lime, from which it is isolated, is one. I will speak only of the quinates of Cinchonine and quinine. Their formation is easy; by merely putting together a solution of quinic acid with either of the alkaloids, the salts will be formed. The quinate of cinchonine has a bitter astringent taste, that of quinine, a very bitter one. Both of them more or less soluble in water and alcohol. Their medicinal uses are the same as the other salts, of the same alkaloids, however, they may be preferred when others do not produce the desired effect.—The first step towards the discovery of Cinchonine seems to have been taken by Dr. Gómez, a portugues physician, and not, as it is erroneously stated in the U.S. Dispensatory, by Dr. Duncan. The results of MM. Pelletier et Caventou, form a new era in the chemistry of Cinchona. They discovered the true nature of the cinchonine of Dr. Gómez and a new and most extensively used alkaloid, Diinine. The process given by Dr. Gómez for its preparation, did not give a pure article, but it was cinchonine and some oleaginous matter, and accordingly, he did not discover the true nature of the substance. Pelletier et Caventou, were enabled to procure the pure article by other process, and readily ascertained its alkaline nature. The Cinchona

Condaminea was employed. They prepared an alcoholic extract which was of a brown colour; this by being repeatedly washed, left a white-greenish matter. This was the cinchonine of Dr Gomez, but by mixing it with a dilute acid (HCl) a greasy matter separated, and the solution was of a golden yellow. From this solution it was precipitated by Magnesia and the precipitate, a dirty white, by repeated recrystallizations from alcoholic solutions, gave a brilliant white crystalline substance; pure cinchonine. It was very little soluble in water, soluble in alcohol or ether, decomposed by heat before fusing. When a hot solution of cinchonine in water, was mixed with iodine, this last was converted into iodic and hydriodic acids, which form white salts with the cinchonine, and precipitate on cooling. Treating the precipitate with sulphuric acid, the iodine was set free, which reaction, after its behaviour with test papers, left no doubt of the alkaline nature of cinchonine. These chemists formed various salts, the analysis of one of which only, I will give. Sulphate of cinchonine is composed of cinchonine 100, Sulphuric acid 13.0210. At a later period the action of iodine on cinchonine, was studied by M. Pelletier and his results are: When cinchonine, with its weight of iodine, is treated with alcohol, all is dissolved and by spontaneous

evaporation one obtains iodide of cinchonine in plates of a saffron like colour. and also hydriodate of cinchonine. On treating them with warm water, this last salt is dissolved and the iodide is left fused. In this way, the two salts are separated. His analysis gives { Iodine 29.87 / cinchon. 71.13 } or according to Serullas { Iodine 33.85 / cinchonine 65.15 }. There is also an iodate and the hydriodate. The composition of cinchonine is according to the analyses made by Pelletier et Caventou, Liebig and Henry & Plisson.

	P.C.	L.	H.P.	Formula.	
Carbon	76.97	76.36	78.88	Liebig	$C^{20} Az H^{11} O$
Hydrogen	6.22	7.37	8.876	Regnault	$C^{40} Az^2 H^{24} O^2$
Nitrogen	9.02	8.87	9.3522	Laurent	$C^{38} Az^2 H^{22} O^2$
Oxygen	9.92	7.40	2.8918	Hlasiwetz	$C^{20} Az H^{12} O$.

As regards the formula, it will be seen, there has been and is yet a good deal of difference. M. Hlasiwitz confirms all the first three formula and adds one more. He has found that under different circumstances, all these formula result. That of Liebig he obtained by analyzing the cinchonine prepared in Darmstadt by M. Merck. He found another substance and called it cinchotine, agreeing with the Hydquinine of Heinisen who found it in the Quinoidine of commerce, and by analysis found isomeric with quinine. In this state, as far as I know, the formula rests.—Cinchonine combines with

most of the acids and many salts with the most common, have been obtained. Sulphate of cinchonine, neutral sulphate of Barup. Sulphuric acid and cinchonine unite and form a neutral salt, very soluble in water and alcohol, insoluble in ether. Crystallizes in four sided prisms of very bitter taste. It fuses a little above the boiling point of water, and a slight increase of temperature decomposes it. Its analysis gives, Cinchonine 100, Sulphuric acid 13.021. Calculating from this we get the atomic weight of cinchonine equal to 38.488. M. Barup, some time after, described two sulphates, a neutral and a supersulphate. By adding sulphuric acid to the neutral sulphate and evaporating till a pellicle begins to show itself, we obtain, after some time, the supersulphate. It crystallizes in rhomboidal octahedrons, soluble in water and alcohol, but not in ether. The other salt has already been described. Their composition, according to M. Barup, is as follows:

Neutral Sulphate. Cinchonine 100. Sulphuric acid 12.820

Supersulphate. Cinchonine 100 Sulphuric acid 23.461.

Gallate of cinchonine. Mixing a hot solution of gallic acid with cinchonine, the liquid remains clear, on cooling it becomes milky and then again clear, leaving the salt precipitated in the form of translucent little crystals. I mention the iodides, the

sulfates and arseniates more particularly, as they are sometimes used by the practitioner. The arseniate I pass over and shall say something more on the arseniate of quinine. There are many other salts, which I must have unnoticed. The preparations of cinchonine, are on the whole much less used than those of quinine. Quinine was first discovered by Pelletier & Caventou, who treated the yellow bark, C. cordifolia, (Mutis) by the same process as the C. condaminea (Humb. & Bonp.). Quinine is an alkaloid, crystallizes with difficulty, in pearly silky crystalline needles, though at first it was thought amorphous. Little soluble in water, very soluble in alcohol and in ether. Decomposed by heat, and as cinchonine, gives non azotized vegetable products. It had a very disagreeable bitter taste, like that of yellow bark and much stronger than that of cinchonine. The analysis of quinine have been made by Pelletier & Caventou, Pelletier & Dumas, Liebig and Henry & Plisson. Their results are:

	P.C	P.D.	L.	H.P.
Carbon	75.	75.02	74.40	74.552
Hydrogen	6.25	6.06	7.61	8.4322
Nitrogen	8.75	8.45	8.11	8.2946
Oxygen	10.	10.43	9.88	8.7212

Its formula is $C^{20}H^{12}AzO^2$ or (Regnault) $C^{38}H^{24}Az^2O^4$. The combinations of quinine are numerous and the one known As

every body almost, is the sulphate. MM. Pelletier & Caventou gave the analysis of it in their memoir. They say, and I translate word for word "Sulphuric acid dissolves the quinine and forms with this base a neutral salt that crystallizes very easily". Forms either needles or plates, very straight, elongated, slightly flexible and resembling those of amianthus. When fused it presents a waxy aspect. It is very soluble in water and in alcohol, very little so in ether. The mean of some analyses is: Quinine 100, Sulphuric acid 10.914. Therefore the atomic weight of quinine is 15.906, much higher than that of cinchonine. Of the sulphates, there are two, corresponding with those of cinchonine. Baup says "The neutral sulphate" the one already described "effloresces in the air and the water lost is three fourths of the total quantity of crystallization". The formula of these I put because of the great confusion generally experienced by the mixture of the old and new names. Then, $(C^{20}H^{12}Az\,O^2)^2, SO_3 + 8HO$ is the old neutral sulphate and the present disulphate, the salt used in medicine. Of its manufacture etc. I say nothing, these being known to all medical men. The other salt, the old superdisulphate, the present sulphate and the formula of which is $C^{20}H^{12}Az\,O^2, SO_3 + 8HO$, can be obtained by adding a slight excess of sulphuric acid to the

disulphate and evaporating to dryness. Its crystalline form is either a rectangular prism or needles very much like the fibres of amianthus. It is distinguished from the official sulphate by its acid reaction and greater solubility. The analysis by Bauf is: Quinine 100, Sulphuric acid 22.222. There are many other analysis, but I need not give them.

Gallate of quinine. On the addition of gallic acid to all the soluble salts of quinine, there is always a precipitate formed, provided the solutions are not too dilute. This acid unites to quinine and forms a salt very sparingly soluble in cold water. It is dissolved by heat and on cooling, the liquid becomes lactescent and deposites the opaque gallate. Combinations with iodine there are three, the iodide, the iodate and hydriodate. For the preparation of the first salt, one employs the same process as for the iodide of cinchonine, from which it is very difficult to distinguish, as it presents almost the same properties. Its composition, as given by Pelletier is: Iodine 30.31, Quinine 69.69, or Iodine 71.58 Quinine 28.42. Iodic acid unites with quinine and this salt is much less soluble than that of cinchonine. Theoretic analysis gives: Iodine 33.59, Quinine 66.41. There is nothing particular about the hydriodate. Dr. Donné undertook the inquiry; whether by

combining with iodine, the organic bases lost their power upon the animal economy. I have not seen his report, nor do I know his result, but I suppose that some do not. The next combination and the last of which I shall speak, is with arsenic. Arseniate of Quinine. Arsenic acid combines with quinine to form an arseniate, which, in form, resembles very much the phosphate. Comparing the arseniate of quinine, which crystallizes easily, in needles, with that of cinchonine, which does not crystallize, we find a method of distinguishing the two alkaloids. Arsenite of quinine. Dr. Ringdom found the arsenite very serviceable, especially in chronic cutaneous deceases. He prepared an arsenite of potash, 64 grains of arsenious acid with 32 grains of carbonate of potash and decomposed the salt with two scruples of sulphate of quinine. A white precipitate, diarsenite of quinine, is formed, which being washed and dried, can be given in the dose of one third of a grain, at first twice and afterwards three or four times a day. The dose of the other salts of quinine is the same as that of the sulphate. Many other substances have been subsequently found in or made from the cinchona, such as: Cinchovatine (Aricine), $C^{46}H^{27}Az^{2}O^{3}$,

Quinoleine, $C^{18}H^{7}Az$,

Quinon $C^{24}H^{8}O^{8}$, Hydroquinon $C^{24}H^{12}O^{8}$, Quinonique acid $C^{24}H^{12}O^{10}$
Quinonamide $C^{24}H^{12}Az^{2}O^{6}$, Chlorsulphoquinon $C^{24}H^{6}O^{8}Cl^{8}S^{4}$, etc. etc.
which, it is obvious, I must necessarily omit. To collect all new discoveries about the great remedy, would require much time and a lengthened writing, two things incompatible with my present purpose. The adulterations of quinine or its salts, are to be ascertained by the chemist, and this is not the place to point out a course of analysis. A few tests are given in the books. — Some reactions of quinine. When to a solution of sulphate of quinine, ammonia and chlorine are added, there is a beautiful green coloration. If instead of ammonia, one employ potash, the solution is colored sulphur-yellow. Puting in the solution, chloride of calcium with hydrochloric acid, a green powder is also precipitated. Cinchonine does not produce any of these reactions. A method to determine the value of cinchona barks, is given by Dr. Buchner. It is by making an infusion of the bark in water acidulated with dilute sulphuric acid, at 122° to 140° F. After having exhausted completely the bark, which is known by not giving to acidulated water a bitter taste, the infusion is evaporated to a proper bulk, the quinine precipitated by ammonia. The precipitate is collected in a filter,

washed, dried and weighed. From the weight, the ammount of quinine is ascertained. The quinine is precipitated as a brown mass, if purified, it will not give good results; while the impure quinine gives the ammount very nearly. Another method, by Chloroform, is given in the Annuaire de Chimie p. 137. And with this, I must close what I have to say about the chemistry of Cinchona, though I reluctantly leave this part of the subject.

The History of Cinchona. Quinquina is the term more commonly used in Europe. This comes from Quina Quina, which in its turn is made from the Peruvian (Quichua) tongue, and La Condamine made its derivation from the word Quina qui, signifying a sort of shawl or mantilla. If not strictly correct, it is, at least, the most probable derivation. The bark seems to have been known to the inhabitants of Peru for a long period before the Spaniards, and made acquainted of its virtues by accident. Some say that a native having been taken sick with fever, accidentally took the bark and was cured; others, that it was discovered by observing that the lions when seized by an intermittent generally chewed the bark of the tree and trial found beneficial. Others again, say that the jesuits following the

custom of the country; to recognize trees by chewing the bark, and finding it so much more bitter than any other, those among them who were physicians, were led to apply it to cure deceases and found its properties. Geoffroy attributes its discovery to a man being obliged to drink, when thirsty and sick with intermittent, from a pool saturated with the bark, from fallen trees in it, and being cured. It seems to be certain, that the natives knew of its virtues and concealed them from the Europeans, whom they hated, with reason. The story is related, and seems, according to La Condamine, to be a true one, that in 1638, the vice queen of Perú, the countess of Cinchona, being attacked with a fever that yielded to no treatment, was cured, at the suggestion of the Corregidor, by taking the bark. — When she left for Europe, the 17th of December 1639, She carried some of the bark, as also her physician, Juan de Vega. She latter distributed the bark at Sevilla and the jesuits followed the same practice at Perú; hence the two names, Countess's powders and Jesuits' powders. Its reputation spread and finally it was sold in parts of the Continent, remote from Spain. In its turn, it lost much of its credit, by being mixed with other inert barks, but it soon revived. — The source of this great remedy was unknown in Europe until Louis XIV in 1679, made it public, having bought the secret from an Englishman,

Talbot, an empiric who sold an infusion of bark in Portwine, and contemporaneous with Sydenham. The tree which produced the bark, was not known till 1738, when La Condamine described it and Linnaeus named it Cinchona officinalis. The knowledge of this remedy, its sources, properties, etc. have rapidly increased since then, and I omit this part of its history, as it is to be found in most books, suffice it to say that the demand for the bark is very extensive, the exportation carried on very largely and no physician willing to deny that if there is any specific in our Materia Medica, it is the bark or its alkaloids.

The Medicinal uses of Cinchona. Cinchona, I include under this term some of its alkaloids, is ranked among the powerful tonics and anti-intermittents. Its applications are very numerous, and I intend to give only a few. — When the bark is first taken into the stomach, it produced a sense of warmth in the epigastrium which diffuses itself over the abdomen; a sense of fullness or slight pain in the head. Singing in the ears and perfect deafness is experienced by some who are brought completely under its influence. Nausea, vomiting and even more distressing effects may be produced by the injudicious administration of this remedy, especially when given in an irritable state of the stomach. It may be employed in all the morbid conditions of the system,

when the tonic power is desired, provided there are no symptoms of gastric irritability. In low, typhoid forms of decease. In scarlatina, measles, small pox, carbuncle and when the system is exhausted by a large, purulent ulcer. Its great use, however, is in intermittent fever. W. Tshudy observes in his travels, that the fresh bark is more efficacious than the dried, and not only the cure is more speedy, but that it insures the patient against the return of the decease. Its use, mode of administration and effects, in this decease, are well known, so I pass them over. In remittent fever also, it is useful; but not in that class of remittents that take an inflamatory, bilious, congestive type. However, even in these, with some precautions, it is recomended by Dr. Chapman. This author, in some cases, obtained better results by a mixture of the bark with serpentaria. In certain kinds of diarrhea, I think that the gallates will be found useful. Used also in gleet leucorrhea, gonorrhea dormientium, in combination with steel, with some of the happiest effects. In gangrene, cancer, and the other malignant affections, the remedy is doubtful. It is indicated in remittent nervous affections. M. Pearson, praises it very highly, in certain forms of venereal decease, in incipient bubo, ulceration of the throat, etc. In these cases it is necessary to administer mercury also, to eradicate the de-

cease from the system. — To finish this part of the subject, it is necessary to do it absolutely: for Cinchona has been employed in so many deceases; different circumstances and different results, that to enumerate all, would, probably, be impossible. As an example of the extravagant ideal, I will give the belief of some, which cannot but make us laugh. It is: "Du la quinquina ne guérit ni les fièvres intermittents ni les maladies périodiques, mais l'intermittence et la periodicité". The mode of administration is various; in powder, infusion, tincture, pills, etc. I will give only two receipes.

Pulvis chocolatæ chinata.

Cocoa cum cortice Peruviano.		Cocoa almonds	℥vi
Coffee, ground	℥ji	Cinchona, powd.	℥iii
Cinchona, powd.	℥j.	Sugar	℥viii
		Balsam of Peru	℥j.

An ounce of either, boiled in three or four spoonsful of milk or water, make a dose. There is a beer, unknown in Europe, and used by Mulis in New Granada, made by letting 32 lb of sugar and 3/4 lb of white cinchona, C. ovatifolia, with 15 bottles of water, ferment. This makes an alcoholic liquor, rather intoxicating and very useful to the convalescent. This can be made into vinegar by allowing the fermentation to go on longer. — In prescribing, care should be taken, not to give any of the incompatibles.

The deceases of Cinchona. I mean by this, those caused by it. M. Zimmer of Frankfort has named one, the "Quinine fever," the description of which I have not been able to see, owing to a deficiency of a number of the "Comptes Rendues" &c. What I here say is from the same source. Dr. Gerard reports a case of a man being attacked with a tertian in a manufactory of quinine, against which, the sulphate of quinine was unsuccessful. Salicine cured him. Another man in the same circumstances was cured by small doses of sulphate of quinine. M. Rivière proposes inoculation with the matter of the pustules of the quinine fever patients as a prophylactic against fevers of a marshy origin. Roseola also appear in rheumatic patients treated with sulphate of quinine. — I will conclude with a remark by Liebig. "We are able to produce urea, allantoine, the oils of valerian root, of the Spiraea ulmaria, of the Gaultheria procumbens, etc., all natural products, by chemical force. The chemist makes allantois from the excrements of snakes and birds, he makes urea from charred blood, the oil of valerian from potatoes, &c. These results are enough to justify us, in entertaining the hope that we shall, ere long, succeed in producing Quinine, morphine and those combinations of which albumen and fibrine, or muscular fibre consist, with all their characteristic properties." This, if not exactly his own words, is the substance of them. But, even if once Quinine be artificially obtained, as not only that, but many

of the most important articles of our Materia Medica, are found only in the Cinchona's home (besides the articles found in the U. S. Dispensatory, I state only two of the many more that I could enumerate. These are: the Mikania Guaco, discovered by Mutis and the Simaba Cedron (Planchon) an analysis of which is in progress by Mr. Lewy, late Professor of Chemistry at Bogota), and as not only through its quinine but by many other articles South America has bettered and alleviated our condition and thrown happiness around us when we least expected it or could hope for it; South America, will, in this respect, ever be the first country in the world.
On the subject of Cinchona, perhaps all that is interesting has been passed over in the preceding pages, but however imperfect my writing may have been, I must here bring it to a close.

Ezequiel Uricoechea.

Gentlemen

The time having arrived when every candidate for a Degree, shall present a Thesis, on some Subject connected with the Medical Profession. I gladly submit. Knowing as you well do, that whatever I may say in regard to any Subject connected with disease or its Cure. Must necessarily (in the main) be a mere compilation of facts, or hypothesis received, either from the Excellent instruction of this "Glorious Institution" or from the hasty perusal of books. Consequently I say. I gladly submit to the rule or law of this Institution. Therefore I proceed to a description of,

Erysipelas.

Syn. St Anthonys fire. Rose. And by some Authors, Erythema. The disputes between Medical Men as to the distinction between the terms Erythema and Erysipelas have arisen from the vague manner in

which these terms have been used.

By Erythema, I understand simply superficial redness of some portion of the skin, not attended with inflammation of the subcutaneous areolar tissue. Nor with vesication, nor is genral with fever, while Erysipelas on the other hand is a constitutional affection, characterized by diffuse inflamation of the skin, subcutaneous cellular tissue, membranes, and not unfrequently muscles, accompanied by fever commencing before, at the same time with, or perhaps a short time subsequent to the development of the local symptoms;

In fact the first stage of Erysipelas resembles the forming stage of other forms of fever, commencing with lassitude nervous prostration, aching pains in the head, back and Extremities, great uneasiness and rigors, alternating with flushes of heat, and accompanied by

a depressed and irregular pulse. after a short time, the symptoms of reaction appear, varying according to the cause the vigour of the constitution, and the nature of the Epidemic, (for it frequently rages as such following the laws of Epidemics in all particulars)

The local symptoms differ according to the particular form of the disease. Most Authors divide it into simple or cutaneous and cellular cutaneous Erysipelas. The simple Erysipelas or the Erysipelas of the head and face of some Authors, is known by a livid redness of the skin, which disappears momentarily on pressure, considerable puffy swelling, from serous effusion into the cellular tissue, accompanied by some burning, stinging, or smarting pains, where there is great serous effusion, the color will be pearl as when it affects the Eyelids, or Scrotum, for instance. The local symptoms of the cellulo-cutaneous, or phlegmonous Erysipelas, are

as follows. 1st In many instances at least there appears a small red spot, Elevated and Extremely painful to the touch, at first small but rapidly increasing. In the direction of the Lymphatics, may be seen elevated lines of a red color at first, but gradually changing into a deep purple hue, harder than the healthy tissues, rapidly increasing in all directions, sometimes assuming an Erratic Character wandering along the Skin and spreading in one direction as it fades in another, though this more frequently is the case in the cutaneous type. The Lymphatic Glands in the neighbouring portion of the limb become tender, and Enlarged, Extensive serous Effusion takes place in the loose tissues which generally terminates in unhealthy Suppuration, and Sloughing of the Cellular substance; In which case the swelling becomes flaccid, and Craggy, and doughy, patches of the Skin become disorganized, Covered with livid vesications and Sloughs.

giving Exit to a sanious pus and to flakes of disorganized tissue. And not only the loose textures and cellular are destroyed by this specific inflammation; but the fascia Bloodvessels Nerves, (Muscles) and even bones. Moreover when the disease is not so severe the limb is not unfrequently made useless, by the hardened tonney state of the parts, though inflamation with lymph. The cutaneous form of this disease terminates in a different manner sometimes in resolution, leaving nothing but desquamation of the epidermis, with slight oedema but more frequently large bullae from effusions of serum. Under the cuticle are formed, some of them coalescing forming large blisters. Resembling a burn; in three four or five days the serum becomes concrete or dry and large sycamore or scabs are formed which fall about the tenth day

Treatment. The treatment of Erysipelas varies according to the nature of the Epidemic strength of constitution and variety of disease. The indications for treatment in both the simple or cutaneous and phlegmonous varieties are first to correct the derangements of function, any Emetic Purgative or Antimony Tart may be given on the first occurrence of the symptoms and if the patient possess a good constitution robust and young the Emetic should be followed by a good dose of Calomel and the bowels kept open so long as Entonic action continues. Venesection should be employed if the inflamatory action is severe. Especially if the disease is seated in the head with a tendency to delirium. Great precaution should be used in prolonging the anti-phlogistic measures as there is in most if not all cases a tendency to typhoid symptoms. And these are much to be

should especially in crowded habitations
should symptoms of debility supervene
Tonics and Stimulants may be employed
as soon as the tongue clears or as soon
as the thick brown fur is being detached
from it and the skin becomes moist.
beef tea should be given. It should be
started to without delay. if the pulse
is soft tumultous or rapid skin cool
and delirium of a low and mutter-
-ing form occurs. When there is no tende-
-ncy to coma Opium may be given at
bed time to allay restlessness. If Diarr-
-hoea or vomiting should occur small and
repeated doses of Hydr cum Creta et pulv Dov
should be given and fomentations or sub-
-episcients be applied to the abdomen
if the bowels become tympanitic the
Nitrate Silver may be administered in
doses of 1/6 or 1/8 of a grain every three
or four hours. or the Mixture of Camphor
and Ammonia may be used in table-

-Spoonful doses Every hour. The local
remedies are first those which have
a tendency to arrest the Extension
of the Malady this may frequently be
done by applying a strip of adhesive
plaster around the limb above the
inflamed portion. Or by the appli-
-cation of Tinct Iodine or Nit Silver
above the inflammation. When the
Caustic is used the Crystal may be
moistened and carried around the
Affected portion in such manner
as to make a cauterized ring.

Fomentations and poultices may
be applied to the local inflammation
such as Pub Ulmus. Pub Sem Linum
the common bread and milk poultice
or the Yeast poultice. Care should
be taken to give free Exit to pus
should it be detected. The local
treatment in Simple Erysipelas consists
simply in applying some Emetines

substance to the skin. And
as soon as vesication takes place
the serum may be evacuated in
such a manner as not to remove
the cuticle and then sprinkle or
dust over with wheat or other flour.

In course of from four to six
days, desquamation takes place
and further treatment is unne-
-cessary.

W. B. Welton.

Pneumonitis

We find this disease has been described like most others, under a great variety of names, each author selecting a name agreeable to his views of the disease- hence we have in the older works Empresma Pneumonitis- Peripneumonia, Pulmonia, & a variety of other names of similar import. At the present day the word Pneumonitis is almost universally employed, to designate the affection, on account of the signification of its termination, itis, which imports violent, or impetuous action, & also designates the disease as belonging to the class of viceral inflammations, most of which have the same termination.

Pneumonitis is an inflammation of the substance of the lung. - It may be situated in any portion, tho' it occurs more frequently in the inferior lobes, than in the

superior usually commencing in the lower & extending to the upper lobes. It may be situated in one or both lungs simultaneously, yet it more frequently affects but one at a time, it being a singular fact that it is found much more frequent in the right lung, than the left. Sometimes it is limited to certain pulmonary lobules, when it is denominated Lobular Phenmonitis

Causes. Phenmonitis may be the consequence of any of the causes of inflammation in general, altho' cold is considered as as the most fertile, the affection occuring much more frequently during the cold seasons, & in cold climates, than in warm. It may follow excessive exertion of the lungs, as speaking, or singing, especially if proper care is not taken to prevent exposure to cold after the exertion. Phenmonitis is divided by Laennec into three different stages, which he designates

by the terms, Engorgement, Hepatization, & Purulent Infiltration - each term denoting the state or condition in which the lung is found, at that period of the disease, which the term designates.

Anatomical Characters. In the first stage, or that of engorgement, that part of the lung, inflamed, is filled with bloody serum - its cut surface, presents a reddish or blood-colored appearance, & a frothy, serous, fluid, exudes from it in abundance externally it is of a dark red color - is heavier than in health, altho' the portions mostly engorged usually float on water, like an edematous limb it retains the impression of the fingers - crepitates under pressure, tho' less than in health, At this time the lung is more easily torn, than in health, its cohesion being somewhat diminished, in which respect it resembles the spleen, hence the term splenization has been used by some to

designate this period, If the inflammation continue to advance, this stage may continue from twelve hours, to three days, before the next stage is fully formed,

The third stage is characterized by the loss of the cellular appearance of the lung it having become solid, & dense, the cut surface very much resembling the cut surface of liver, whence the name hepatization given to this stage. The lung now contains no air, sinks in water, & precipitates under pressure — the cut surface is sometimes uniformly red, sometimes presents a variegated or mottled appearance — the fluid that flows out under pressure, is not so great in quantity & is not so frothy as before.

If a portion of hepatized lung be torn, it will present a granular appearance, as tho' it were composed of small red oblong grains, these are the air cells rendered impervious, by the thickening of their parieties. The lung in this stage appears larger than

is natural, this is accounted for by its being impervious to air & not contracting as healthy lung does, when air is admitted to the cavity of the thorax.

This period may continue from one to three days before the next is fully formed.

In the third stage, the lung is filled with purulent matter - if it be incised, pus oozes forth or may be made to exude, by gentle pressure, this is not attended by fetor, as pus from common abscess; the texture is become very much softened, so that it can be easily crushed between the thumb & fingers - it now presents a drab, reddish-yellow, or straw colored, appearance, sometimes mottled with red or black. Inflammation may terminate in gangrene. Watson observes, tho' it almost as uncommon as the formation of abscess, yet it certainly does now & then occur as a consequence of acute inflammation of the lungs.

Symptoms. The symptoms are such as we should expect to attend inflammation of the lung - there is cough, dyspnea, a frequent pulse - pain in the thorax & a peculiarly colored sputa which is characteristic of the disease,

It is generally ushered in by a paroxysm of shivering, followed by heat - the urine is scanty, & high colored, these symptoms are followed by pain in the head, & an increased frequency of pulse, & other febrile symptoms. Sometimes the first symptom is pain in the chest, yet frequently it is not present until the more advanced stages. Accompanying pain, we find cough by which the pain is very much increased, hence the patient frequently endeavors to avoid coughing. The breathing is laborious, sometimes so much so, that the mind seems wholly engaged in respiration, the respiratory movements being short, & quick. Again it may be so slight as not to be

noticed by the patient, except his attention be called to it. If the chest now be percussed, there will be heard the natural resonant sound as in health, but if the ear be applied over the diseased portion, there will be perceived some slight crepitation, mingling with the natural respiratory murmur, which crepitation increases with the advance of the disease. The ~~crepitation~~ if any at the first, is simply bronchial mucous, but in the course of two or three days, it takes on its characteristic appearance, it has a reddish brown, or rust colored hue, sometimes very light, & sometimes dark, this is occasioned by the incorporation of blood, with the mucous, when received into a vessel, it unites into one trembling, gelatinous mass, of such tenacity as to adhere to the sides of the vessel when inverted, so long as this does not happen, or in other words, if the mucous flows readily, when the vessel is moved,

the disease does not pass the first stage. In the second stage if the chest be percussed over the diseased portion, there will be heard a decidedly dull sound, & if the ear be applied, we hear no sound at all, except the disease involves some of the larger bronchial-tubes, when we shall hear bronchial respiration, accompanied by bronchophony. At this period we hear in the sound lung, puerile respiration, showing that the sound portion is endeavoring to compensate, for the deficiency, caused by the disease. The breathing is short & accelerated. & articulation is difficult. Delirium is another not unfrequent symptom, always considered as unfavorable, showing that the brain does not receive a sufficient quantity of duly arterialized blood, to enable it, properly, to perform its function. Between the second, & third, stages, it is with much difficulty, that we can discriminate, Watson says, "if the countenance become

exceedingly pale & corpse-like, we may guess that the third stage is established, & we may be more confident, if prune-juice expectoration occur. This course of symptoms may occupy from one, to two weeks, tho' there is more frequently a crisis, at about the fifth, or seventh day.

If at any time resolution should take place, there is simply a retrogression of symptoms - if it occur during the second stage, the dullness on percussion gradually diminishes, the sputa assume their natural bronchial character - bronchophony, & bronchial respiration cease - crepitation returns, & soon is heard the natural respiratory murmur, if it occur in the first stage, the symptoms retire in the same manner. In the third stage, there exists much doubt as to whether recovery ever take place, as we can never be positively sure, when that stage is established, yet it is probable when resolution occurs, the disease does not pass the

the second period.

Prognosis.

Our prognosis depends very much upon the age of the patient, the disease being much more fatal, in infancy & old age, than in middle age. Beyond the age of seventy, more than one half the cases terminate fatally. The respiration assists very much, as a prognostic symptom, if the dyspnea is considerable, so that the patient can scarcely lie down, his attention being almost wholly taken up with efforts at respiration, the respiratory movements being short, & quick, it is always considered as an unfavorable symptom, showing that there is not healthy lung enough remaining, to admit air in sufficient quantity, for the due arterialization of the blood, especially if we find dyspnea in connection with a feeble pulse, must we consider the inflammation as intense. Much depends on the extent to which the

disease advances, whether only one lobe, or the whole lung, is diseased,—whether one, or both lungs, are inflamed—whether it be situated in the upper, or lower lobes, it being considered more unfavorable, when situated in the upper lobes,

Again the second stage if of the same extent, is more unfavorable than the first. If the disease advance to the third stage Good think there is no possibility of proving, that the lung may recover.

Delirium is another unfavorable symptom, frequently occuring in the latter stages. The character of the expectoration, also, assists in our prognosis, denoting a high degree of inflammation, when it is very tenacious, & of a deep rusty color,

Treatment.

In this affection, it is very necessary that our treatment be strictly antiphlogistic, or in other words, that all causes of irritation, & excitement, be removed, & all

sources carefully guarded, the patient should be kept as quiet as possible, & not be allowed to talk more than is absolutely necessary, the diet should be simple, & light.

In a robust constitution, free from any peculiar idiosyncrasy - the disease being idiopathic, the principle indications to be fulfilled are, first to reduce inflammatory action, second, to prevent deposition. The remedies most to be relied on in the fulfillment of the first indication, are venesection & Antimony, of the second, Mercury.

Venesection to be most effectual, should be resorted to at the commencement of the disease, as at this period it proves most efficacious in the reduction of the inflammatory process. In the use of this remedy we should attempt to make an impression on the system by the abstraction of as small an amount of blood as possible. This may be accomplished by placing the patient in an upright position,

opening a vein in the arm by a free incision, & allowing the blood to flow in a full stream, until the pulse becomes softer, or symptoms of syncope occur. In this way we may arrest the progress of the inflammation- relieve the engorged vessels of the lung, & thereby add to the ease & comfort of our patient. Sometimes the pain will be removed immediately, & the due proportion, between the air & blood, passing through the lungs, being restored, the dyspnea will subside.

Frequently our bleeding will not be sufficient to allay the excitement, & if within the course of four or five hours, the symptoms demand it, we may again resort to the lancet. Sometimes the pain is relieved & much benefit follows the use of leeches, or otherwise abstracting blood from the surface of the chest, over the diseased lung. Venesection in the second stage, will not exert so great an influence,

over the disease - yet it will be of great benefit, in diminishing the force of the heart & arteries, & thereby tending to prevent the extension of the inflammation, & also by placing the the system in a condition, such, that the lymph filling the air-vesicles, will be more readily absorbed.

Antimony is a very powerful remedy, when administered as a diaphoretic sedative, especially when used in connection with venesection - or it may be used with very much advantage, when venesection is contraindicated, the patients strength being too much reduced, to admit of it - though it should not be used as a substitute; it acts very powerfully in reducing the morbid exaltation, of organic action - diminishing the force & frequency of the pulse - & relieving the patient of pain, & dyspnea, it should be given in from 1/4, to 1/2 grain doses, repeated every one or two hours, this should be increased,

to one, or two grains, - this may cause vomiting & purging at first but the stomach will (probably) soon tolerate the dose, if not enough Opium may be combined with it sufficient to counteract its cathartic qualities.

Expectorants may be very beneficially employed. Squill. Gum Ammoniac, or Sanguinaria may be given. Dewees remarks, "Senega is an exceedingly valuable remedy in the latter stages of pulmonary inflammation, when it occurs in debilitated constitutions, & when the use of depletives is no longer useful, it appears to reestablish a healthy condition of the secreting organs, promotes the resolution of the morbid deposit, & gives strength to the system.

In the second stage Mercury in some of its forms, proves a very valuable remedy - if given so as to affect the system as soon as possible, it checks the progress of the inflammation, arrests the effusion of

lymph, & promotes its absorption. Calomel is the form most frequently administered, it may be given in one, two, or three grain doses, repeated every one two or three hours, until the system is slightly affected. If it should act as a cathatic, Opium should be combined with it.

Counter irritation applied to the surface of the chest by means of blisters, is frequently of much benefit in relieving the symptoms, especially if applied in the latter stage, when the febrile action is somewhat reduced, but the pain, & dyspnea continue, & expectoration ~~continue~~ is difficult, if applied too early, the action of the irritant, may fall in with the diseased action & thereby aggravate the symptoms.

Gentle Cathatics are frequently necessary, to procure an evacuation from the bowels, lest the accumulation of feces, become a source of irritation, to the patient, Castor Oil, or Magnesia may be given, or any

Mild Laxative, sufficient to move the bowels, once every one, or two days.

If in the latter stages, the patients strength fail, & symptoms of sinking & debility occur- feeble, & irregular pulse- coldness of the extremities- pale & sunken features- it will be necessary to administer cordials, & stimulants, in order to arouse, & sustain, the sinking vital powers.

It will be perceived, that I have spoken of disease, as occuring in a robust, healthy person, free from all peculiarity of constitution- in the middle period of life- & all other circumstances favorable, & have also spoken of the treatment, as adapted to such a case. But it is comparatively seldom, that we thus find disease when we come to the bedside. Here we shall find that our treatment in one case, will not be appropriate in another- that it will be impossible to lay down any precise form of treatment, that will be proper-

in all cases. We shall find also, that from year to year, the change of diathesis, will require a change of treatment. We shall not unfrequently find disease engrafted on a broken-down & debilitated constitution, or we may find some peculiarity of constitution - or many other circumstances, such as Age, Sex, Habit, Occupation, Climate, &c all or any of which, might make a momentous difference, in the indications. Hence when we encounter disease, we should first investigate its nature, & enquire for the indications, & then prescribe accordingly. Or in other words, in accordance with the precepts of our Venerable Teacher, we should prescribe for the symptoms, & not for the name. Finally, we must first understand the general principles of medicine, & if these are thoroughly understood, we shall find ourselves prepared to combat disease successfully, when we come to the bedside of the sick.

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